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A Review of Government Financial Reporting Research Post-GASB 34 and Investigations of GASB 54 Fund Balances

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A Review of Government Financial Reporting Research Post-GASB 34 and Investigations of GASB 54 Fund Balances

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Business (Accounting Concentration) at Virginia Commonwealth University.

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ABSTRACT

A REVIEW OF GOVERNMENT FINANCIAL REPORTING RESEARCH POST-GASB 34 AND INVESTIGATIONS OF GASB 54 FUND BALANCES

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My dissertation consists of three studies. My first study builds a literature review of state and local general-purpose government financial reporting research after Governmental Accounting Standards Board (GASB) Statement No. 34's issuance in 1999. This review also includes governmental bond and financial condition research that is related to financial reporting. About 130 papers are cited and future research suggestions are given within my review. The research referenced shows that governmental reporting information post-GASB 34 has shaped studies' investigations of financial reporting outcomes and associations, and will continue to influence governmental reporting studies into the future.

My second study examines both the rearrangement of governmental fund balance amounts after GASB Statement No. 54 and the factors associated with GASB 54 governmental fund balance categories. Using pooled ordinary least squares (OLS) regressions, I determine several relevant findings. Even though the pre-standard governmental "reserved" fund balances had a relatively predictable allocation to the updated GASB 54 fund balance types, pre-standard "unreserved" fund balances had greater variance in allocation to the GASB fund balance

categories. In my determinants analysis, general service charges and income per capita are positively, while prior deficits, population, and unemployment are negatively related to GASB 54 governmental fund balance categories that have higher spending flexibility. The findings suggest reporting consistency improvements with GASB 54 fund balance requirements, and that there are specific factors that promote or hinder the accumulation of flexible fund balance types.

My third study examines the relationship between GASB 54 flexible fund balance types and either future bond-specific outcomes or future revenue/expenditure compositions. My analyses utilize pooled OLS regressions. The results demonstrate that future bond interest costs decrease and bond ratings increase as the amount of either "unrestricted" or "unassigned" governmental fund balances increase. Changes in flexible fund balances are also found to be positively related to future operating expenditure changes, while negatively related to future changes in property tax, service charge, and distinct types of intergovernmental revenues. These results indicate that flexible fund balance information signals financial health which influences both external entity decisions and future municipality financial planning.

CHAPTER 1

A Review of State and Local Government Financial Reporting Research Post-GASB 34

ABSTRACT: Governmental Accounting Standard Board Statement No. 34, published in 1999, updated the financial reporting model of state and local governments. As such, much of the subsequent governmental accounting research has been shaped by this statement. This paper conducts a literature review of state and local general-purpose government research investigating financial reporting/disclosure choices and associations after GASB 34's implementation. Within this review, I also list papers related to two important and intersecting topics: Bonds and financial condition. The research cited demonstrates the significant influence of GASB 34 reporting information on research, and that future research will continue to use GASB 34-related measures to examine financial reporting outcomes and relationships.

INTRODUCTION

The implementation of Governmental Accounting Standards Board Statement No. 34 (GASB 34) marked a monumental step in guiding financial reporting at the state and local government levels (GASB 1999). This standard has had a substantial influence on much of the state and local government research that focuses on financial information post-GASB 34. Since governmental financial reporting researchers use and build measures based on financial statement information, the updated financial reporting model has modified some existing, or created new, figures and disclosures that shifts the focus of reporting analysis from prior methodologies. Thereby, it is relevant to gather and list governmental accounting research papers that concentrate on financial reporting and its direct associations after GASB 34's publication date. Accordingly, I provide a literature review of state and local general-purpose government financial reporting research post-GASB 34.

GASB 34 was published in June 1999 as a culmination of desires to update the governmental financial reporting model to better avoid inconsistencies or misleading disclosures experienced in the past and to provide added usefulness to external financial statement users (e.g., Patton and Hutchison 2013a; 2013b; Kinnersley 2016). The increased ability to hold governments accountable by providing reporting information that better allows interested parties to assess the current or changing financial condition was a major motivator for GASB 34 (e.g., Kravchuk and Voorhees 2001; Mead 2002). Thus, many features of GASB 34 were developed for the purpose of heightened transparency and understanding for governmental stakeholders.

GASB 34 states that it "establishes new financial reporting requirements for state and local governments throughout the United States" (GASB 1999). The major components of

GASB 34 are a management's discussion and analysis (MD&A) section, basic financial statements, and required supplementary information (RSI). The MD&A "should introduce the basic financial statements and provide an analytical overview of the government's financial activities" (GASB 1999). Thereby, knowledgeable government finance officers should give a readable analysis for users to examine how the government's financial condition either improved or worsened over the fiscal year. There are several pieces of literature that examine MD&A disclosures (e.g., Guo, Fink, and Frank 2009; Rich, Roberts, and Zhang 2016).

The basic financial statements should include the new government-wide financial statements (i.e., statement of net assets and statement of activities) which use an accrual basis and economic resources measurement focus to report all assets, liabilities, revenues, expenses, gains, and losses of the entire government and separate governmental and business-type activities (GASB 1999). Fund financial statements are also included in the basic financial statements to display financial information about governments' major funds, partitioned by governmental funds (i.e., general fund, special revenue, capital projects, debt service, and permanent funds) or proprietary funds (i.e., enterprise or internal service funds) (GASB 1999). Research often uses financial ratios or account balances from the basic financial statements to discover important associations (e.g., Wang, Dennis, and Tu 2007; Gore 2009). Notes to the financial statements designed to give information "essential to a user's understanding" should additionally be part of the basic financial statements.

Finally, RSI should be provided, which includes budgetary comparison schedules/information and requirements for governments using the modified approach for infrastructure assets (GASB 1999). Vermeer, Patton, and Styles (2011) and Jordan, Yan, and

Hooshmand (2017) are examples of infrastructure reporting and budgetary literature, respectively.

There have been several governmental accounting literature reviews developed over the past two decades. The literature review from Kim, Plumlee, and Stubben (2018) provides an overview of U.S. government structure and background. Their paper also provides a review of prominent governmental accounting literature from a broad variety of topics, along with data sources to support future research.

Other governmental literature reviews have focused on selected overarching topics or research methods. Kidwell and Lowensohn (2011) provide a literature review on behavioral accounting research in the governmental setting. Budgeting and auditing were found to be the most prominent topics for the examined period of 1991-2007. Reck, Wilson, Gotlob, and Lawrence (2004) review governmental accounting research that focuses on capital market consequences. Many of these studies look at how bond interest costs, ratings, or pricing are influenced by auditing characteristics, financial information, and reporting regulation. Mullins and Pagano (2005) highlight research on local government budgeting and finance over the last 25 years, especially those articles found in *Public Budgeting & Finance*. They focus on five areas relevant to the past quarter-century and toward the future: (1) intergovernmental finance, (2) general financial management, (3) general budgeting and budget reform, (4) alternative service delivery, and (5) capital budgeting.

This literature review covers research on financial reporting at the state and local general-purpose government levels after GASB 34's implementation in 1999.[1] As such, I do not include

[1] Specifically, I review research that includes at least some sample years including or after 2001. I select this date because GASB 34's mandatory effective date for governments with total annual revenues (excluding extraordinary items) of $100 million or more is June 15, 2001 (GASB 1999).

papers that focus on nonprofit organizations, special-purpose governments (e.g., school districts), nor those examining the federal government. Since governmental auditing, pension or other postemployment benefits (OPEB), and management-based performance research represents broad topics on their own, I also omit governmental research that concentrates on these overarching concepts. Finally, I do not cover research designated for practitioner journals for the purpose of consistency. The cited papers are from either peer-reviewed journals or are in working paper form.

This paper contributes to prior literature in four ways. First, this paper offers a literature review on recent reporting research at the state and local government levels. As described earlier, other governmental literature reviews were either broadly focused (e.g., Kim et al. 2018), emphasized different methodologies (e.g., behavioral studies in Kidwell and Lowensohn 2011), or research areas (e.g., capital markets in Reck et al. 2004). In comparison, my review delves deep into government financial reporting-focused papers that mostly utilize archival methods with some surveys, interviews, and case studies. My hope is to provide fellow researchers a quick guide to finding relevant papers to aid in supporting their current governmental reporting research efforts and possibly spark new ideas for future papers.

Second, my review includes research from a variety of academic journal sources. Many pieces of governmental financial reporting research come from governmental accounting journals (e.g., Baber, Gore, Rich, and Zhang 2013; Reck and Wilson 2014). However, public administration and political science journals also offer valuable insights and papers dedicated to state and local government reporting (e.g., Kloha, Weissert, and Kleine 2005a; Marlowe 2011). Including various perspectives in my literature review shows the complementary environment with those whom conduct governmental reporting research.

Third, I provide insight into some key changes of GASB 34 that had an effect on research conducted subsequent to its implementation. Many papers sought to discover how GASB 34 information changed reporting behavior and what factors were impacted by its measures (e.g., Johnson, Kioko, and Hildreth. 2012; Bloch 2016; Arapis and Reitano 2018; Beck 2018).

Finally, I also include research dedicated to two significant topics that are interrelated with governmental financial reporting: Bond research and financial condition research. Each topic has determinants and outcomes that are shaped by reporting information and characteristics (e.g., Trussel and Patrick 2009; Palumbo and Zaporowski 2012; Pridgen and Wilder 2013).

The rest of this paper goes as follows. First shown is research dedicated to broad evaluations of GASB 34 content and implications for future governmental accounting researchers, including those in different financial reporting perspectives. Next, I display research investigating governmental financial reporting and disclosure topics comprised of reporting decisions, written disclosures, reporting associations, and disclosure perceptions. I then list research dedicated to bond topics categorized into information environment, reporting decisions, and additional factors subtopics. Afterward, research on financial condition topics is given separated by either indicators or fiscal health associations. Finally, the conclusion section provides a brief summary of my literature review and suggests some implications that follows governmental financial reporting research.

[FIGURE 1 ABOUT HERE]

OVERARCHING GASB 34 EVALUATIONS AND IMPLICATIONS

This section shows literature designed to inform researchers on key features and implications of GASB 34. These research papers were typically written within a couple years after GASB 34 was created as state and local governments were on the verge of implementation (or even chose adoption early). Several governmental reporting experts cited afterward have taken the lead to ready others for the various costs and benefits associated to GASB 34. These commentary pieces help guide researchers to find new and interesting ideas within GASB 34's new financial reporting model.

[TABLE 1.1 ABOUT HERE]

The next three papers cited describe the historical developments that contributed to GASB's desire to create an encompassing standard to direct governmental financial reporting. Past weaknesses of previous financial reporting models and information became rallying calls for state and local governments to offer financial statements that were more transparent, more accurate, and better disclosed financial condition changes and measures. Also importantly, the new standards should hold governments' financial managers more accountable.

Patton and Hutchison (2013a) describe how the financial reporting model for state and local government has evolved over the past century or so. Past periods shifted the financial reporting model in response to calls for accountability, measurement focus, aggregation, and budgetary disclosure. The implementation of GASB 34 represents the culmination of reporting needs over the past time period. The MD&A, basic financial statements (including government-wide statements), and other required disclosures under GASB 34's guidance is suggested to

provide fiscal accountability through improved measurement, transparency, and government-wide information.

Patton and Hutchison (2013b) study how developments (especially over the 15 years prior to implementation) have shaped GASB 34. GASB utilized significant resources and garnered perspectives from different financial users in order to create this overarching standard for state and local government financial reporting. The diverse set of needs is suggested to be addressed with government-wide and proprietary fund statements using an economic resources measurement focus and full accrual accounting. The governmental fund statements should also use a current financial resources measurement focus with modified accrual accounting. The report should include a budgetary comparison schedule for actual-to-budgeted measurement as well.

Kinnersley (2016) offers a historical literature review on the evolution of totals columns reported on the balance sheets for state and local governments. Prior to GASB 34, a combined totals column was either optional or prohibited due to concern of misleading users by combining funds with different bases of accounting or including restricted assets. GASB 34 finally required state and local governments to display a single consolidated total for all primary governmental funds on the newly created Statement of Net Assets.

The next set of articles offers in-depth analysis of GASB 34's content. They showcase the major components and changes mandated by GASB 34. Several give pros and cons that state and local governments will likely face when preparing and presenting their financial information. The standard's implications are also provided to emphasize how different perspectives (e.g., governments, citizens, and bond analysts) will view this new disclosure format. Some of these

papers offer suggestions for future research based on GASB 34's updated reporting requirements.

Mead (2002) highlights key features of GASB 34 and assesses how GASB 34 addresses accountability between state and local governments and its citizens. GASB 34's new model "comprises of (1) MD&A, (2) basic financial statements, and (3) other required supplementary information." New government-wide reporting and MD&A requirements should better explain current levels of and changes in financial condition and give governmental financial managers more flexibility in describing the reasons for such conditions and changes to improve understanding. The implementation of GASB 34 is suggested to have benefits that outweigh its costs.

Kravchuk and Voorhees (2001) outline and provide commentary on the new financial reporting model prescribed by GASB 34. They suggest GASB 34 is an "effort to enhance overall accountability" for state and local governments through requirements designed to apply private sector standards in a governmental entity setting. Two groups believed to benefit the most from the new model are financial intermediaries and citizens. Even though the new accrual-based government-wide statements, comparative budgeting, and MD&A are claimed to improve financial information understanding and clarity, significant additional costs may burden governments in presenting this updated information according to GASB 34.

Patton and Bean (2001) assess why and how GASB 34 changed reporting requirements for capital assets. An underlying goal of GASB 34 was to increase statement users' awareness and understanding of a state or local government's measures reflecting operational accountability through the implementation of new government-wide financial statements. An economic resource flow measurement method would be utilized with such disclosures as all capital assets

reported on the government-wide statement of net assets and all expenses (including depreciation) for capital assets reported on the government-wide statement of activities.

Wilson and Kattelus (2001) comment on potential implications of how GASB 34's reporting models could influence decisions of both municipal managers and municipal bond analysts. They suggest that by requiring new statements that provide added operational accountability (such as the government-wide statements), managers' disclosures of their government's short- and long-term financial condition can improve understanding. Bond analysts should make improved decisions by acquiring knowledge of how efficient and effective a government's finances are being managed through GASB 34's disclosures. However, some managers may face a steep cost in reporting the information required by GASB 34.

Wallace (2000) provides a brief overview of GASB 34 and presents many potential GASB 34-related research opportunities as the standard is newly adopted. The suggested future research encompasses many research methodologies including archival, experimental, survey, and field study. The article offers potential research questions in a variety of overarching topics, such as valuation, new disclosure presentation (and perceptions about), budgeting, auditing, and outside influences. The lack of accessibility is suggested to hinder the usefulness for citizens.

REPORTING AND DISCLOSURE TOPICS

As GASB 34 requires an updated format of reported financial information, governmental finance officers will accordingly make financial disclosures based on this guidance. These disclosure decisions include accounting methods (e.g., modified or depreciation methods for infrastructure assets), classifications (e.g., governmental fund balances), and written disclosures

(such as those found in the MD&A section). Researchers have subsequently used GASB 34-based financial measures and disclosures (sometimes found in new financial statements such as government-wide Statement of Activities) to find a wide variety of relationships. Additionally, a range of financial statement users and stakeholders will judge the usefulness of the mandated financial information presented in their accountability or sustainability assessments of their governments.

I break this section into four categories of research falling under reporting and disclosure topics. In order of presentation, the four categories are: (1) Reporting decisions, (2) written disclosures, (3) reporting associations, and (4) disclosure perceptions.

Reporting Decisions

This section displays papers that examine governmental reporting or disclosure choices. Some of these choices can occur based on accounting regulation or guidance (e.g., GASB 34). These can range from GAAP adoption to infrastructure reporting methods. Governments also have accessibility options to connect stakeholders with financial information. Additionally, government finance officers may also make discretionary reporting choices to garner favorable outcomes.

Three studies investigate implementation decisions involving either GASB 34 or the use of Generally Accepted Accounting Principles (GAAP). The researchers find different government characteristics associated with accounting adoption choices.

[TABLE 1.2 ABOUT HERE]

Patrick (2010) studies how the decision to adopt GASB 34 is shaped by government size with samples of local governments in Pennsylvania. Survey responses from local governments indicate that either smaller or rural governments were less likely to adopt GASB 34 after the suggested state deadline for government type. Local governments with greater occupational specialization (as proxied by in-charge person job title) and those using independent CPAs to perform their annual audits were more likely to adopt GASB 34.

Carroll and Marlowe (2009) test the associations between municipal accounting policies and types of stakeholders on 375 municipalities in Illinois from the fiscal year 2002. Multivariate tests show that the municipal bond market (as proxied by the issuance of debt by the municipality) and the federal government (as proxied by the total amount of federal intergovernmental revenue) are stakeholders significantly related to the use of GAAP.

Khumawala, Marlowe, and Neely (2014) survey local governments to study if GAAP adoption is related to accounting credentials, degrees, and financial reporting awards. An empirical analysis of the usable 357 responses from non-GAAP-required states reveals that having degreed accountants or receiving the GFOA's certificate of achievement for excellence in financial reporting is associated with the adoption of GAAP. They suggest that political and economic responses might not explain GAAP adoption decisions as well as accounting professionalism.

Another financial reporting choice found in recent research involves the accessibility of the actual financial reports themselves. The following two studies focuses on how reporting users can obtain financial statements and which statements are available.

Styles and Tennyson (2007) investigate the accessibility for external report users to retrieve CAFRs though the government's website with a sample of randomly selected 300

municipalities partitioned into three by population size. The analysis shows that large municipalities are more likely to place their financial reports online than medium or small municipalities. Additionally, municipalities having higher incomes per capita and those receiving GFOA's Certificates of Achievement for Excellence in Reporting have a higher probability of online financial reports. Municipality size, income per capita, debt per capita, and financial position were also positively related to ease of accessibility to retrieve the online reports.

Yusuf, Jordan, Neill, and Hackbart (2013) surveyed the largest cities and counties (also every state capital city) in 2010 to identify reporting practices for PAFRs. The 52 usable responses indicated that 75 percent of local governments have issued popular financial reports (such as PAFRs and budget summaries). The decision to issue popular reports appears to be driven by the desire to provide citizens with important information and increase transparency and accountability.

The next three papers examine governmental financial managers' discretion for financial reporting. Specifically, these papers look at whether finance managers can and do strategically report financial information to achieve desirable outcomes. This aspect is synonymous with earnings management in the corporate environment. Such findings would suggest that government finance managers have incentives to report information strategically.

Beck (2018) investigates the use of discretionary accruals within both full accrual and modified accrual financial statements by a sample of 232 Californian municipalities with populations over 30,000 for years 2008-2013. The results indicate that municipalities use discretionary accruals prior to bond offerings and to avoid deficits. Although, less discretion is used during increased creditor scrutiny or when discretion of modified accrual statements would be more detectable.

Felix (2015) uses 103 municipalities with population over 25,000 from 2001-2003 to examine whether inter-fund transfers are utilized to manage changes to the general fund balance toward zero. The findings indicate that inter-fund transfers are managed toward a zero general change regardless of whether the pre-managed balance change is positive or negative. Moreover, the use of inter-fund transfers occurs more frequently with municipalities having greater stakeholder oversight and the strong-mayor form of government.

Gore (2015) studies if unionized municipalities can hide amounts within less transparent fund balances with a sample of 3,427 observations from 728 municipalities. Analyses demonstrate that unionized municipalities, compared to nonunionized municipalities, have lower proportions of unreserved general fund balances and higher proportions of fund balance outside of the general fund, suggesting motivation to avoid displaying significant discretionary funding resources.

As shown in the research afterward, yet another accounting choice involves the usage of slack resources. These resources may be either designated by stabilization funds (to protect against economic shortfalls) or simply holding sufficient amounts of unreserved fund balances (as an optional safety net). Choosing to build or utilize slack comprises thoughtful consideration of the goals (and perceptions) of the state or local government.

Gianakis and Snow (2007) investigate the use of stabilization funds and GAAP-basis unreserved general fund balance (as proxied by free cash) in local Massachusetts governments. Results indicate a weak relationship between the two major sources of slack resources. Municipalities were found to prefer decreasing free cash rather than using stabilization funding in the presence of reduced state aid.

Snow and Gianakis (2009) surveyed 74 municipalities in Massachusetts in 2006 to discover their strategies involving stabilization funding. Respondents indicated that stabilization fund balances were deemed important to maintain for bond ratings and fiscal responsibility, and thus finance officers were hesitant to utilize the stabilization funds for revenue shortfalls or unexpected expenses. Some municipalities used stabilization funding to finance capital projects or in the presence of revenue emergencies.

Stewart, Hamman, and Chapman (2018) use fiscal year 2015 to analyze fund balance policies in all 102 Illinois county governments. The analysis shows only 18 percent of Illinois counties have formal reserve policies regarding unreserved/unassigned fund balances (e.g., minimum balances, replenishment, or spending guidelines). Larger and wealthier counties are found to be more likely to adopt fund balance policies—though only one county met all of the GFOA's unreserved fund balance recommendations.

The last two studies in this section investigate choices in specific reporting contexts. Infrastructure asset reporting in GASB 34 allows governments to choose between the modified approach and depreciation method. Internal service funds, on the other hand, give governments an accounting option for cost allocation.

Modlin (2011) studies if the use of internal service funds (ISFs) has declined in a sample of 97 surveyed county governments in North Carolina, South Carolina, and Tennessee. Respondents' results show that only 27 percent of counties used ISFs for cost allocations. Counties with larger budgets or cost allocation plans were more likely to use ISFs. The lack of use was attributed to interdepartmental functions or reconciliations that account for the costs.

Vermeer et al. (2011) examine how state governments disclose general infrastructure assets post-GASB 34 using CAFRs between 2001 and 2008. They find that many states lacked

detailed disclosures on retroactive capitalization, such as which infrastructure assets were retroactively capitalized, the retroactive period used, and cost measurement basis used. For the sample period, 56 percent of states used depreciation accounting while the remainder used the modified approach for reporting their infrastructure assets. In a follow-up contact with state controllers/comptrollers, depreciation accounting tended to be used when the state lacked an adequate asset management system for the modified approach.

Written Disclosures

Related to reporting choices is the discretion to present verbal or written information designed to provide users explanations or clarifying content. The intent of written information is for knowledgeable governmental finance managers to provide useful disclosures for reporting users to make appropriate assessments of the government's current or changing financial condition (GASB 1999). These written disclosures can be found either in required notes to the financial statements or in more descriptive sections (like the MD&A or transmittal letter). As well, the popular annual financial reports (PAFRs) are designed to be "less detailed and are often intended for users whose financial reporting needs are better satisfied through condensed information" (GASB 1987). The following study analyzes the quality of these written disclosures.

[TABLE 1.3 ABOUT HERE]

Guo et al. (2009) use a content analysis to explore the degree and characteristics of disclosure quality differences with 43 Floridian cities over 50,000 in population. Examining the

MD&A for fiscal years 2006-2008, they find that these larger cities vary significantly in disclosure quality. Also, higher disclosure quality cities provided deeper MD&A descriptions regarding financial and socioeconomic conditions and benchmarks, including comparisons at the regional, state, and federal level. Lower disclosure quality cities tended to omit significant details of financial condition and trends, suggesting more boilerplate information was provided.

The following set of five studies predominantly focuses on readability of financial reports or MD&A sections. These research pieces suggest that a sufficiently low reading grade level will increase the usefulness of information by increasing citizens' understanding.

Marsh, Montondon, and Daniels (2004) analyze the readability of 78 fiscal year 2001 PAFRs that won an award from the GFOA. They find that the average page length was approximately 13 pages and contained slightly over one image per page. The mean readability measures show that between a 9th and 11th grade reading level is needed for these PAFRs. These findings suggest that local governments should reduce the reading level and communicate in a more simplified writing style to better disseminate information to citizens.

Marsh, Montondon, and Kemp (2005) use 84 MD&As from municipalities in 2003 to determine the readability of MD&As post-GASB 34. The results indicate that the mean readability grade level for MD&As ranges from 8.7 to 12.9. Notably, smaller cities tended to have MD&As with a higher readability level than larger cities.

Marsh and Montondon (2005) compare the readability of the same 84 MD&As from Marsh et al. (2005) to the readability of 78 local government award-winning PAFRs. As PAFRs are designed for citizen users, a surprising finding is that most of the readability measures used did not find significant differences between PAFRs and MD&As. However, MD&As were found to be more likely to use passive voice, longer sentences, and longer words.

Lutz, Marsh, and Montondon (2011) analyze 2001 MD&As from five of each small (total revenues less than $10 million), medium (total revenues between $10 million and $100 million), and large (total revenues greater than $100 million) cities to discover if readability differences exist between groups. They do not find evidence of MD&A readability differences between the three size groups of cities, but an average 12th grade reading level is required for comprehension. There is evidence of differences between groups for sentence complexity.

Yusuf and Jordan (2017) assess MD&As' citizen accessibility with a sample of state CAFRs from 2009 to 2012. They use a composite measure of accessibility blended from document length, readability, and timeliness components. The analysis shows that state MD&As average 13.2 pages (5,916 words), were issued an average of 203 days after fiscal year-end, and all had readability levels above 12th grade. These results suggest MD&As of this period are too long, unreadable, and untimely for most citizens, which creates a lack of transparency and accountability.

The final three section papers deal with the linguistic tone and textual similarity of written disclosures. These studies investigate various associations related to positive or negative language choices (specifically within the MD&A section) or factors that are related to MD&A textual year-over-year changes.

Rich et al. (2016) measure the linguistic tone of MD&As within 362 municipalities for the fiscal year 2011 to predict future financial reporting quality. They find that greater positive tone in the 2011 MD&A is associated with less future financial reporting delay after controlling for current reporting timing and municipality governance, demographic, and financial factors. As well, municipalities receiving GFOA's Certificate of Excellence in Financial Reporting tend to

have timelier future financial reporting, while municipalities with higher unemployment have less timely future reporting.

Rich, Roberts, and Zhang (2019a) examine determinants of MD&A tone and the relationship between MD&A tone and future internal control quality with the 362 municipality sample described in Rich et al. (2016). The determinants analysis shows that MD&A tone is positively associated with the council-manager government form, citizen educational achievement, and intergovernmental revenue, whereas tone is negatively associated with general fund deficits and reporting delay. Additionally, evidence is found that positive (negative) MD&A tone is related to fewer (greater) future internal control issues.

Rich, Roberts, Wall, and Zhang (2019b) explore the factors associated with MD&A year-over-year content changes using a sample of 1,141 municipality MD&As from 2011 to 2015. The findings note that larger changes in unemployment rate and the occurrence of auditor turnover are related to more MD&A textual changes. Municipalities in states with GAAP requirements and those with debt changes tend to have greater textual MD&A similarity. However, greater textual change in the MD&A is also found to be associated with disagreement between bond rating agencies.

Reporting Associations

As I move from different reporting decisions (including written choices), I find research that investigates various associations between financial information and other attributes. Specifically, these associations could be with government characteristics (e.g., population or government type), financial conditions (e.g., fund balances, financial slack, revenue sources, fiscal distress), or external reactions (e.g., credit ratings). Furthermore, the strength and direction

of these associations may differ in times of recessionary forces. Since the following studies are post-GASB 34, some of the financial information investigated will be unique to the new governmental reporting model.

[TABLE 1.4 ABOUT HERE]

This section's first five papers explore and demonstrate relationships between financial reporting quality and budgeting. These studies show that reporting quality can be either measured in terms of negative events (such as reporting lag or restatements). The other research cited examines budgeting and future revenue/expenditure outcomes or reporting characteristics.

Sohl, Waymire, and Webb (2018) model the factors associated with total and bifurcated reporting lag in 1,693 Illinois local governments in fiscal year 2014. Respective lagged delays are found to predict fiscal year-end to audit report delay, audit report to state comptroller submission delay, and total delay in both general and special purpose local governments. General purpose governments tended to have greater total delay while select audit factors were significant in bifurcated delays. The authors suggest tools such as eXtensible Business Reporting Language (XBRL) to improve reporting and reduce audit report to state comptroller submission delay.

Rich and Zhang (2016) study if accounting restatements are related to an increased likelihood of financial manager turnover with 138 municipalities from 2001 to 2004. Compared to a matched control sample without restatements, the analysis indicates that municipalities are more likely to experience finance director turnover subsequent to a restatement. The results

suggest that material accounting reporting failures are undesirable and can lead to managerial changes.

Costello, Petacchi, and Weber (2017) examine state balanced budget restrictions on fiscal decision-making over a period between 2001 and 2010. The findings show that states with stricter balanced budget provisions tend to participate in asset sales, inter-fund transfers, spending cuts, and tax increases when financial stress occurs. Furthermore, spending cuts and tax increases are prioritized for smaller deficits, whereas a combination of all four fiscal actions occur for larger deficits.

Marlowe (2009) analyzes how overspending budgets increase future budgeted expenditures (i.e., a ratcheting effect exists) within the 1993-2007 period for about 350 Minnesota cities. The results show an increase in budgeted expenditures following an overspending in the prior period. Cities with higher levels of financial slack in total general fund balance reduces the ratcheting effect, whereas higher slack found in unreserved general fund or enterprise fund balances sometimes increase the ratcheting effect.

Jordan et al. (2017) explore how revenue compositions affect 47 states' revenue variances from 2007 to 2011. The findings indicate that more diversified revenue structures reduces both the occurrence likelihood and the magnitude of a negative revenue variance. Even though revenue elasticity also reduces the magnitude of the negative revenue variance, the probability of occurrence is increased.

The next two papers look into tax and expenditure limitation impacts on local government. Both studies suggest negative effects from increases in tax and expenditure limitation strictness.

Jimenez (2018) investigates how states' tax and expenditure limitation rules on local governments impact city budgetary solvency. Using a sample of 560 cities with population greater than 50,000 during fiscal years 2006-2012, the analysis shows lower unrestricted net position and change in total net position when a state has greater tax and expenditure limitation stringency. The relationship with change in net position is strengthened during recessionary periods between 2009 and 2011.

Maher, Stallmann, Deller, and Park (2017) examine how state reserve balances are associated with tax and expenditure limitations between years 1992 and 2010. They find marginal evidence that combined revenue and expenditure limits or separate expenditure limits have a negative relationship with total reserves. Democratic or mixed government control is found to have smaller total reserves and budget stabilization funds. Revenue volatility positively (while intergovernmental revenue percentage negatively) relates to state reserve balance types.

The subsequent two studies explore GASB 34 infrastructure asset reporting. Adoption of these reporting requirements are shown to shape future capital assets. The accounting method chosen (depreciation method or modified approach) can also be a significant influence.

Kim and Ebdon (2017) assess whether 47 states' highway capital spending and maintenance expenditures were influenced by GASB 34 infrastructure reporting and/or the reporting method used in sample years 1995 to 2009. Their findings show that GASB 34 requirements increased capital spending and total expenditures, but not capital maintenance expenditures. States using the modified approach were not statistically different on capital or maintenance spending from states using the depreciation method.

Kim, Chen, and Ebdon (2018) extend Kim and Ebdon (2017) by investigating whether infrastructure quality is increased by GASB 34 infrastructure reporting implementation or chosen

infrastructure method with 45 states from 1995 to 2009. They find that state highway quality was higher after using GASB 34's infrastructure reporting. The modified approach is associated with higher infrastructure quality than the depreciation method is.

The next set of research focuses on governmental financial slack. The first five papers find financial, government, and socioeconomic factors associated with levels of cash holdings and fund balances. Afterward, two articles that assess outcomes of financial slack are cited.

Gore (2009) examines determinants of expected cash holdings from 9,413 municipality-year observations from 1997-2003. The results show that municipalities hold more cash when their revenues variation, growth, and scarcity of revenue sources is higher. On the opposite side, municipalities hold less cash when they are larger in population and receive more state revenue. Potential agency issues are also tested and the analyses indicate that municipalities with additional cash spend more on administrative expenses and management's salaries and bonuses, but not in cutting taxes.

Arapis and Reitano (2018) use 103 Florida cities between 2005 and 2012 to examine the factors associated with financial savings behavior. Most sample cities are shown to have maintained their unassigned general fund balance levels (i.e., not falling below the GFOA's recommendation). Results indicate that higher property taxes, population, and debt service expenditures increased the likelihood of falling below the GFOA's recommendation; while net enterprise transfers, general government expenditures, and wealth decreased the probability of falling below the recommendation.

Stewart, Phillips, and Modlin (2013) explore how revenue streams and volatility affect savings levels in Illinois, Mississippi, and North Carolina counties between 2005 and 2010. Unreserved fund balances are found to be directly associated with property tax,

intergovernmental, and other revenues. Additionally, conservative ideology is shown to be positively related with unreserved balances, while unemployment, greater non-white population, and greater white-collar employment are negatively related with unreserved balances.

Guo and Wang (2017) examines determinants and spatial relationships with unreserved fund balances in 2007-2011 Florida counties. The 66 counties are shown to maintain higher unreserved balances when revenue volatility and property tax rate are higher (or when unincorporated population is lower). Unreserved fund balance relationships are also somewhat dependent on neighboring counties own levels of property tax rates, unincorporated population, and intergovernmental revenues.

Stewart (2011) extends Stewart (2009) by investigating whether government type ("unit systems" with separated political and administrative responsibilities similar to a council-manager form or "beat systems" with fused political and administrative responsibilities) determines the level of savings within unreserved fund balances within Mississippi counties. The author suggests that counties in Mississippi with unit systems tend to have larger populations and affluence than those with beat systems. During times of resource abundance, unit systems increased savings when intergovernmental increased and decreased savings with higher per capita income, while beat systems had the opposite effect. Both systems increased savings when property taxes increased and decreased savings when debt per capita or population increased.

Hendrick (2006) investigates slack resources found in unreserved fund balances and the subsequent effect on fiscal condition and decision-making on a sample of 264 municipal governments within the Chicago metropolitan area between years 1997 and 2003. Unreserved fund balances are found to be related to revenues less expenditures, the magnitude of expenditures, and long-term fiscal conditions. Results also indicate that the effect of slack

resources reflect current fiscal conditions by accumulating slack when conditions worsen in order to reduce risk factors.

Su and Hildreth (2018) test whether the level of financial slack impacts the likelihood of issuing short-term note debt in 478 California cities from 2003 to 2011. Holding higher levels of unreserved fund balance is shown to reduce both the probability of note issuance and the issuance amount. Further analysis demonstrates that salary expenses and long-term debt positively increase their reliance on short-term borrowing.

From a different perspective, the next two research pieces offer insight into how creditors use financial information. They find significant governmental financial measures and characteristics that are considered within credit ratings.

Johnson et al. (2012) examine how credit rating agencies utilize ratios and information from financial statements post-GASB 34 implementation. Based on states' financial information from 2002 to 2005, they find evidence that credit ratings incorporate government-wide information. Credit rating agencies are also found to prefer conducting primary financial analyses based on the general fund instead of the entire government.

Davies, Johnson, and Lowensohn (2017) study whether restricted and unrestricted net assets contain nonfinancial factors of interest to credit raters with a sample of 256 local governments with populations more than 100,000 for fiscal years 2007-2011. These liquid net assets are found to relate positively with property values, net asset changes in business-type activities, and the mayor-council form of government, but negatively with violent crime, unemployment, and non-pension postemployment benefit liabilities.

The subsequent two papers explore the outcomes of new fund balance requirements. Created in 2009, GASB Statement No. 54 (GASB 54) "establishes fund balance classifications

that comprise a hierarchy based primarily on the extent to which a government is bound to observe constraints imposed upon the use of the resources reported in governmental funds" (GASB 2009). Thus, the following research mostly focuses on how older fund balances shifted into the GASB 54 categories.

Chase and Roybark (2013) provide an overview of GASB 54 and elaborate on the standard's effect on fund balance reporting. They suggest that GASB 54 should promote a more consistent application of governmental fund reporting and disclosure, and thereby offer more understandability and information content regarding resources. An analysis of local Virginia governments shows only a minimal increase from the 2010 unreserved fund balances to the new 2011 unrestricted fund balances (or 2010 unreserved-undesignated to the 2011 unassigned).

Kelly (2013) analyzes how budget stabilization could be impacted by GASB 54's guidance on fund balance disclosure. Additionally, the CAFRs of 187 cities with populations between 100,000 and 250,000 in fiscal year 2011 were collected to investigate the distribution of the two past fund balance categories into the five recent fund balance categories. Results indicate that formerly reserved fund balances (and 32% of formerly unreserved balances) are allocated to the newer nonspendable, restricted, committed, and assigned fund balances. With only fiscal year 2010 reserved fund balances, these are allocated 21% to nonspendable, 6% to restricted, 43% to committed, and 62% to assigned fund balances for fiscal year 2011. However, these findings also raise questions on how allocated fund balances will be used and for which purposes.

The following papers examine financial reporting research under recessionary periods. Three articles examine the historical or simulated effects of a recession. The remaining papers shown study possible governmental characteristics or reporting balances in a recessionary context or investigate differing reporting reactions to economic downturns.

Plummer and Patton (2015) examine how government-wide financial measures are able to assess fiscal sustainability for states in fiscal year 2008. Adjusted total net assets (assets less capital assets, liabilities, and obligations) is suggested to estimate the extent revenues have covered costs over the past and current periods. Most states are found to have a negative adjusted total net assets balance, suggesting payments for costs are being shifted to future periods and harming fiscal sustainability. The adjusted total net asset deficit averages $1,000 per household in 35 states, and $10,000 per household in 15 states.

Snow, Gianakis, and Fortess (2008) use revenue data from 2000 to 2005 to simulate recessionary effects on all 351 Massachusetts municipalities to test how well these municipalities can cope with economic downturns given their revenue growth and slack resources. The simulation reveals that 55 municipalities (about 16 percent) could not endure a high severity recession. These vulnerable municipalities may have too much state-aid reliance, significant nondiscretionary expenditures, little property tax revenue growth, and/or lack of stabilization funding in order to handle substantial recessions.

Ross, Yan, and Johnson (2015) analyze CAFRs from 2005 to 2011 from the 35 largest cities to establish how well cities weathered the Great Recession. A primary finding is that the total governmental or general fund revenue amounts for these cities remained relatively stable. Many cities had less revenues from other sources and intergovernmental transfers due to the recessionary period, but results point to cities utilizing a combination of raising property taxes and reducing their net assets to minimize deficits.

Stewart (2009) examines determinants of unreserved fund balances for Mississippi counties both in times of relative resource abundance (1995-1999) and relative resource scarcity (2000-2004). Unreserved fund balances were found to have significant variation and tended to be

higher in times of abundance and lower in times of scarcity. Property tax revenues and per capita income were positive determinants of unreserved funds, while population change was a negative determinant during abundance periods. Under scarcity times, population change was a positive determinant, and governments with separated political and administrative responsibilities had less unreserved funds. Debt per capita was a significant negative determinant to unreserved funds in both times.

Wang and Hou (2012) examine both the what factors influence counties' general fund balance levels and how those levels affect expenditures during recessionary periods. Using all 100 North Carolina counties from 1990 to 2007, they find that property taxes, local option sales taxes, and county wealth positively impact general fund balances, whereas capital outlays and unemployment negatively impact general fund balances. The results also demonstrate that general fund balance does not significantly influence expenditure gap (i.e., difference between actual and projected expenditures) during periods of economic downturn.

Sacco and Busheé (2013) investigate the revenue and expense directional change responses to the 2001 and 2007 recessions for 30 cities with populations between 100,000 and 250,000. Starting in 2003 (after the 2001 recession), net assets generally increased steadily until 2007. The 2007 recession caused net assets to drop as revenues declined more quickly than expenses decreased. Analysis of five sample cities' MD&As reveals disclosures (including graphs) suggesting public safety expenses and general government spending increases even during recession, meanwhile infrastructure assets are significantly lowered.

Stewart, Hamman, and Pink-Harper (2017) utilize 101 Illinois counties from 2000 to 2010 to investigate whether prior financial slack stabilizes future county expenditures. The results show prior unrestricted governmental activity fund balance limits the subsequent

expenditure gap in periods of economic downturns. The relationship is insufficient during economic upturns.

Rivenbark, Afonso, and Roenigk (2018) utilize a sample of 471 North Carolina municipalities between fiscal year 2006 and 2013 to assess how the Great Recession affected both depreciable capital assets and the capital asset condition ratio. Recessionary years only had a slight negative effect on the amount of depreciable capital assets. However, univariate analysis indicates that accumulated depreciation outpaced depreciable capital assets in the capital assets condition ratio over the sample period.

Disclosure Perceptions

I wrap up the recent research on financial reporting topics with a section on the perceptions of state and local government financial reporting. Research on reporting reactions is important as it shapes subsequent reporting choices, and potential future accounting standards (e.g., the voices that brought forth GASB 34). These perceptions may be from the governmental management's (i.e., finance officer) or external users' perspectives (e.g., citizens or municipal analysts). The following papers gather their perceptional data via either survey or interview research methods.

[TABLE 1.5 ABOUT HERE]

The first set of four research papers collects perceptions directly about GASB 34. Since GASB 34 changed the way state and local governments report their financial information, it is important to assess if reporting managers and external users deem the standard to have improved

the reporting environment. As well, these perceptions can weigh in on the cost-benefit argument of new GASB 34 requirements.

Frank and Gianakis (2010) sent a survey in 2007 to chief financial officers of cities with populations of at least 50,000 to gather the perceptions of the new reporting model required by GASB 34. They found that finance officers often disagreed that the new model was more helpful for bond raters and in raising concern for budgeting or financial condition. However, the MD&A is considered to be successful in reporting factors affecting financial condition. Some respondents deemed the cost of the new reporting model to exceed the benefits. Though the authors suggest some of the negative perceptions may be due to lack of experience with the new accrual basis of accounting.

Lu (2007) analyzes the pre- and post-GASB 34 CAFRs of Georgia state government and interviews managers within Georgia's Department of Audits and Accounts to determine how GASB 34 impacts financial reporting. Helpful new features such as the MD&A, two different government-wide statements, and reconciliation between governmental fund and activities are deemed to have potential in improving accountability. Interview respondents also perceived financial statement structure under the new reporting model easier to follow.

Frank, Gianakis, and McCue (2005) research finance officers' perceptions of GASB 34 implementation in improving forecasting by surveying a random sample of 1,600 cities and counties with populations over 35,000 in 2001. The association between GASB 34 implementation and enhanced forecasting is found when local governments utilize forecasting software and have finance directors with advanced degrees.

Bloch (2016) sent a survey to members of the National Federation of Municipal Analysts (NFMA) in 2013 to get their perceptions on whether the new information required by GASB 34

improved governmental financial reporting quality and better reflected governments' financial position. A total of 107 of usable respondents indicated that, while financial reporting information and transparency has improved, the need to communicate with government officials to reduce uncertainty remains. Also, fund financial statements are deemed more useful than government-wide financial statements for municipal analysts. The survey additionally finds that the MD&A is considered the most valued new component of GASB 34, except when it contains boilerplate information.

Outside of the perspectives on GASB 34, the following research delves into perceptions of other financial reporting aspects. Financial users can range from professionals (as in the first four papers) to citizens (in the last two papers). These papers gather responses on such items as reporting rationale, usefulness, accountability, and timeliness.

Fischer and Holmes (2018) survey 159 accounting and finance professionals to gather their perceptions on tax abatement reporting and information preferences. The majority of respondents considered tax abatements as a good way for cities to encourage new business and create new jobs. Even though respondents indicated that some of GASB 77's tax abatement required information was important, they also thought several disclosures not required by the statement were important as well.

Hunt, Freeman, and Marsh (2014) sent a questionnaire to members of the 2005 list of NFMA to gather perceptions of fair value reporting within fund financial statements. 142 respondents viewed cost information about investments in the fund financial statements to be as valuable as the respective fair value information. Fair values for other assets and liabilities was perceived negatively. These findings suggest the current preference for fair value information

and elimination of cost information for investments may not be favorable for municipal analysts, and thereby disclosure should retain both cost and fair values.

Kloby (2009) interviews chief financial officers from ten cities who were sustained recipients of GFOA's PAFR awards program from 2002 to 2005. Interviewees felt that popular reports are beneficial in providing a "quick reference" to communicate important financial management information and build citizen's confidence in such information. These financial officers are perceived as having significant flexibility in determining the report's style and content. Citizen-based financial reporting is deemed to increase accountability but not necessarily to promote further citizen participative budgeting.

Mead and Marlowe (2011) investigate both the length of time that governments take to issue their CAFRs and if issuance time affects the usefulness of information using random samples of state and local governments from 2006 to 2008. They find that state and local governments average between 174 and 199 days from fiscal year-end to issuance date. Survey results from 194 members of the NFMA, Governmental Research Association (GRA), and National Association of Legislative Fiscal Officers (NALFO) in 2010 highlight that information usefulness decreases very rapidly with lengthier information delay. About 88 percent, 43 percent, and 9 percent of respondents felt that information received within 45 days, within 90 days, and within 180 days, respectively, was "very useful."

Yusuf, Jordan, Franklin, and Ebdon (2017) conducted a 2010 survey to residents of seven cities within the Hampton Roads region of southeastern Virginia to measure citizens' views regarding local government financial disclosure and responsibility. They found that residents rated informational transparency and accessibility very high, but their cities tend to use passive methods for disseminating popular financial reports. Fiscal accountability was rated near the

national average. Despite being given opportunities for citizen participation in budgeting, cities were found to not extensively seek out participants nor were required to formally incorporate participants in the process.

Jordan, Yusuf, Mayer, and Mahar (2016) conducted focus group interviews and follow-up questionnaires in 2012 of Virginia citizens to explore citizen users' perceptions of governmental financial reporting. Participants indicated that they preferred to know about revenues over expenditures, and taxes over fees. Citizens expressed some concern over a lack of timeliness of useful information, suggesting that interim reporting of important financial conditions and outcomes, when relevant, may be more beneficial for understanding and awareness than reporting solely in the released financial statements.

Directions for Future Research

As governments issue their financial reporting, there is a question on how governments promote their financial reports. Some governments provide their financial reports online, but each may differ on where the reports are placed on their websites (or even placed in state auditor websites) (e.g., Styles and Tennyson 2007; Yusuf et al. 2013). The number of years of financial statements also differ between governments. Could struggling governments be more likely to hide their CAFRs in difficult to locate webpages on their site (or provide fewer years of reports)? A survey could gather perceptions of report availability, while an archival study could examine debt consequences of report availability.

Gore (2015) finds that unionized municipalities are more likely to hide amounts in obscure funds. The findings of Felix (2015) suggest governments aim to reduce general fund balances to zero through inter-fund transfers. These studies point to certain types of governments

preferring to utilize fund management strategies. Specific government characteristics (e.g., council-manager form or finance officer professionalism) could be associated with fund management. As well, fund management could be more likely or more material prior to certain decisions (e.g., prior to significant debt issuance(s) or election cycle).

Even though the general fund is a significant information source, (e.g., Johnson et al. 2012) do other fund types provide information content to outside parties? There may be significant determinants of fund types like proprietary or special revenue funds. Such balances could also highlight interesting relationships to important consequences (e.g., impacts to municipal debt or intergovernmental revenues). Additionally, economic conditions could influence fund allocations (e.g., Stewart 2009). Thus, are certain fund categories neglected (or preferred) during economic downturns or upturns?

Several studies have looked at readability measures on governmental reporting (e.g., Lutz et al. 2011), but stakeholder perceptions could indicate different reactions to readability or textual features. A survey could answer if there are citizen perception differences between governments with more readable statements (e.g., CAFRs or PAFRs) and those with less readable statements (e.g., Yusuf et al. 2017). Moreover, do average local education levels match the readability of financial reports? Municipal analysts could also react (e.g., with bond interest costs or ratings) to different textual characteristics in the MD&A or other explanatory disclosures.

Lu (2007) demonstrates that several states provide oversight on local governments and deem GASB 34 to have aided their cause. However, a survey could help indicate what state oversight authorities look at when assessing local government reporting. Specifically, are there preferred areas or measures within the CAFRs that help judge local financial conditions? A

survey or interview method could gather insight into what responses occur if states are (or are not) satisfied with the local government reporting and financial assessment.

BOND TOPICS

Warranting its own overarching topic within this literature review is research investigating relationships with governmental debt. Much of this literature follows how financial information influences debt issuances (sometimes referred to credit quality). Common bond indicators include bond ratings and true interest costs (TIC). Research has suggested that bond measures reflect governments' financial condition information (e.g, Marlowe 2010; Pridgen and Wilder 2013). Thus, state and local governments with healthy finances should receive better bond ratings and lower interest costs, while those with unhealthy finances should receive worse bond ratings and higher interest costs. Besides research examining bond measures reactions from governmental financial information is research exploring the endogenous opposite side where government reporting managers choose accounting methods and presentation choices based on perceived debt market effects. Additionally, credit ratings may also be affected by other governmental characteristics, conditions, and external factors.

This bond topics section is partitioned by three categories: (1) Information environment, (2) reporting decisions, and (3) additional factors.

Information Environment

This section cites research that examines how bond indicators are related to various financial disclosures and other relevant information. This information environment includes GASB 34 specific disclosures and financial reporting health or signaling.

[TABLE 1.6 ABOUT HERE]

The first six papers cited use the implementation of GASB 34 to find associations with updated financial information and bond consequences. Overall, it appears GASB 34-related ratios and disclosures provide incremental information to primary and secondary bond markets.

Marlowe (2010) explores if GASB 34 information provides differences to pricing within both the primary and secondary bond markets using municipality fixed-rate general obligation bonds from 2003 to 2007. The results show that government-wide financial information is not significantly more helpful than fund-based measures in primary market pricing. Conversely, government-wide financial information is found to be substantially helpful in secondary market pricing.

Kioko, Moldogaziev, and Johnson (2013) investigate if GASB 34-related measures impact the pricing of debt securities in secondary markets with a sample of 34,002 bond-week observations for fixed rate general obligation bonds between 2005 and 2010. The analysis reveals that net position and revenues minus expenses predicts the average secondary market bond pricing. However, the effect fails to hold over the long run. Informed investor pricing appears to utilize information from business-type activities and governmental activities, while uninformed investor pricing relies on revenues less expenses.

Pridgen and Wilder (2013) expand upon Plummer, Hutchison, and Patton (2007) by investigating if GASB 34 government-wide financial measures are associated with default risk using 2005 data from 409 municipalities participating in the GFOA's award program.[2] Financial position, financial performance, leverage, and liquidity measures are found to predict underlying debt ratings. Three additional net asset components (unrestricted net assets, restricted net assets, and investments in capital assets net of related debt) are also related to debt ratings.

Benson and Marks (2014) used a sample of 274 insured general obligation bond issuances from 114 Texan cities to investigate whether new GASB 34-related measures impact bond ratings and bond insurance premiums. They found that unrestricted net assets and invested in capital assets less related debt (both scaled by population) positively affect bond ratings and bond insurance premiums. The results also show that revenues minus expenses per capita is not significantly related to the aforementioned debt variables.

Reck and Wilson (2014) investigate the incremental effect of GASB 34 government-wide accrual and modified accrual information in explaining bond default risk. Results demonstrate that the government-wide accrual financial information model explains more towards net interest costs than the pre-GASB 34 general fund model. However, including aggregated modified accrual information does not appear to improve the government-wide accrual model.

Callahan and Waymire (2015) examine how GASB 34's budget-to-actual variance disclosures relate to bond ratings with a sample of 190 city-year observations from fiscal year 2003 to 2006. CAFR data suggests that municipalities strive towards small favorable variances for revenues, expenditures, and the difference between revenues and expenditures. A positive

[2] Plummer et al. (2007) investigate if GASB 34's government-wide information is associated with default risk (as proxied by underlying debt rating) for a sample of 530 Texas school districts for fiscal year 2002.

association is found between bond ratings and favorable expenditure variances, while a negative association exists between bond ratings and either favorable or unfavorable revenue variances.

The remaining papers in the section investigate financial reporting signaling on bond outcomes. Results of these studies suggest that the bond market responds to signals of governmental strength or weakness (or uncertainty).

Amrahova, Bluestone, Hildreth, and Larson (2017) examine whether fiscally healthy municipalities have higher bond issuance yields in the secondary market. They use a sample of 50 cities over 200,000 in population and find that municipality fiscal health has a small impact on secondary bond market yield (a 0.283 percent increase in average yield per 1 percent increase in the measure of fiscal health). The timing of the CAFR release is found to not influence the yield.

Baber and Gore (2008) explore municipal debt issuances with a sample of municipalities from 25 states that explicitly declared annual financial reporting requirements (GAAP or no requirement) in years 1995-2002. The results show no significant differences in debt usage between municipalities in GAAP states and those in states without mandated reporting. Also, municipalities in GAAP states have lower TIC and utilize more public debt over private debt than municipalities in states without reporting requirements.

Gore, Henderson, and Ji (2016) examine if internal control weaknesses affect municipal bond markups (the difference between underwriter agreed reoffering price and dealer price). The analysis uses a sample of 551,083 tax exempt and fixed coupon rate municipal bonds dated between 2005 and 2013 to find a relationship between larger markups and internal control material weaknesses, especially when there is greater information asymmetry between issuer and

investors. Furthermore, bonds issued by municipalities with material weaknesses take longer to sell.

Charles and Shon (2018) utilize 1,920 state bond issuances from 1984 to 2007 to test how debt levels affect bond borrowing costs. The level of state debt is found to be insignificantly associated with future true bond interest costs. General obligation bonds, callable bonds, bond buyer index, taxable bonds, and maturity years increase borrowing costs, whereas competitively sold bonds decrease borrowing costs.

Baber et al. (2013) examine the relationship between accounting restatement and municipal governance or debt characteristics with 207 municipalities for fiscal years 2001 to 2004. They find that TIC increases following the disclosure of a financial restatement. The relationship is strengthened when municipal governance is poor, when audit oversight is low, or when municipal manager entrenchment is high. Following a restatement, municipalities tend to use less debt and prefer issuing secured debt as compared to unsecured debt.

Beck, Johnson, and Parsons (2018) develop a measure of information ambiguity (the extent to which bond ratings are verifiable) to see if bond yields are affected by ambiguity. They use 1,372 general obligation bonds from 78 randomly chosen municipalities. The findings demonstrate that both magnitude and direction of ambiguity effects bond ratings and yields. Specifically, negative ambiguity results in steeper penalties for bond yields than the gradual rewards during positive ambiguity.

Reporting Decisions

This next section displays research investigating how bond consequences relate to financial reporting decisions. These reporting decisions include accounting method/policy

choices and financial statement timeliness. The findings of the selected papers reveal that governmental finance managers may improve/weaken their bond indicators through different reporting choices.

[TABLE 1.7 ABOUT HERE]

The two studies below investigate if the choice of infrastructure asset reporting method has an effect on bond indicators. Each study finds that the bond market has a slight preference for the modified approach over the depreciation method.

Benson and Marks (2017) examine whether the method of reporting infrastructure assets is associated with state bond ratings over fiscal years 2011 through 2013. Between the depreciation method and the modified approach, results indicate that bond ratings are shaped by the interaction between infrastructure asset reporting approach and government-wide accounting measures. Specifically, unrestricted net assets per capita (for Moody's) and invested in capital assets less related debt capita (for Standard and Poor's, also known as "S&P") interact with the modified approach indicator to determine the effect on state bond ratings.

Bloch, Marlowe, and Mead (2016) assess if the infrastructure asset reporting method used influences the secondary bond market. With a sample of secondary market auctions of municipal bonds from 2013 to 2014, they find that states using the modified approach have 24 percent lower bid spreads on bond auctions than states using depreciation approaches.

The next three studies measure governmental debt indicators association with slack resources or equilibrium spending. Even though additional slack shows a degree of fiscal health, the results point to little or no significance on impacting bond ratings.

Marlowe (2011) examines the effect of slack level on credit ratings for a sample of 514 general obligation bond issues from 2007 to 2010 for local governments. Results suggest that slack has only a small influence on credit quality. Smaller, resource-lacking governments can lower the likelihood of a lower rating by 7 percent by holding some slack compared to none. Larger, resource-abundant governments can increase the probability of a top rating by 9 percent by holding a high level of slack compared to a low level of slack.

Grizzle (2010) studies whether budget stabilization funds influence the credit ratings of general obligation bonds. Using state-level data from 1997 and 2006, the results show that weak deposit rules (withdrawal rules) are associated with lower (higher) bond ratings. However, budget stabilization fund type and size does not appear to affect bond ratings.

B. Apostolou, G. Apostolou, and Dorminey (2014) use a sample of 3,285 county-level general obligation bonds between 1995 and 2007 to investigate the relationship between borrowing cost and equilibrium spending. They find that TIC is lowest when general fund revenues match general fund expenditures. As spending diverges from the equilibrium point, the relative increases in interest costs rise faster when expenditures exceed revenues than for when revenues exceed expenditures.

Three studies shown afterward explore if timeliness or availability in financial reporting is a significant factor in improving credit quality. Under the assumption that less timely information is less useful, the studies reveal that delayed financial information can be costly to governments. Online availability of reporting and information may further improve timeliness.

Henke and Maher (2016) explore the relationship between financial reporting timeliness and bond rating/debt costs with a randomly selected sample of 500 general obligation bonds from 373 state and local governments from either 2013 or 2014. They find that less timely

reporting is associated with lower bond ratings. Yields are also positively related to reporting delay. Reducing reporting delay by 64 days (from the 75th to the 25th percentile) is found to result in a lower interest cost by 6.8 basis points.

C. Edmonds, J. Edmonds, B. Vermeer, and T. Vermeer (2017) investigate whether the timeliness of financial reporting influences initial bond rating and yields with a sample of 1,058 general obligation bonds from cities and counties. They find that municipalities receive lower bond ratings and initial yields as total information delay (combined audit and post-audit delay) grows. Additionally, a high default risk creates an even larger debt cost related to untimely information.

Wang (2012) investigates how states' online financial information (specifically CAFRs and budget reports) affects debt costs. With 535 state general obligation bond issuances from 1986 to 2009, the analysis shows that providing online budget reports lowers TIC. The relationship between online CAFR and TIC is, however, insignificant.

Instead of examining bond outcomes based on reporting information, the section's final paper below looks at how bond characteristics shape future financial reporting. Results provide evidence of disclosure reductions following bond upgrades, perhaps indicating less need to explain poor economic conditions.

Gillette, Samuels, and Zhou (2018) assess if bond rating upgrades influence municipality financial disclosures. Using 21,085 municipality issuer-years observations from 2009 to 2014, they find that upgraded municipalities after Moody's 2010 ratings recalibration had less financial disclosures compared to those rated by S&P and not recalibrated. Higher underwriter's client-specific knowledge and regulatory oversight minimize (and higher ex-ante issuer information

demand expand) the disclosure reduction relationship for municipalities with upgraded bond ratings.

Additional Factors

This final bond research section looks at studies that investigate bond indicator associations with other factors outside of financial reporting information or decisions. More precisely, the associations are related to governmental demographic or bond characteristics and bond insurance factors.

[TABLE 1.8 ABOUT HERE]

The following nine papers explore whether certain characteristics or factors help explain credit quality. These characteristics can stem from municipal demographics or state policies, as well as those characteristics found in the bond itself (including the rating agency and competition). Additionally, bond characteristics can lead to other debt-related decisions.

Palumbo and Zaporowski (2012) model determinants of bond ratings using 965 cities and counties with Moody's ratings in 2002. They find that income per capita, population growth, change in worker earnings, and economic base diversity is positively related to bond ratings, while unemployment rate is negatively related to bond ratings. Additionally, full faith and credit debt as scaled by population-weighted median housing value and per capita revenue are positively associated with bond ratings, but state aid per capita and state tax and expenditure limits are negatively associated with bond ratings.

Daniels, Ejara, and Vijayakumar (2010) use a sample of 27,116 tax-exempt city or county bonds in years 1990-2004 to find the determinants of municipal debt maturities. The analysis indicates that higher rated bonds tend to have longer debt maturities than do lower rated bonds. Despite this finding, and that revenue bonds are found to have longer maturities, the relationship between revenue bond rating and debt maturity is negative.

Butler and Yi (2019) examine how population aging influences bond issuance costs with 134,465 general obligation bonds issued by state and local governments from 1991 to 2016. The analysis demonstrates that a one standard deviation increase in proportion of population over 65 years old increases bond yield spreads by about 23 basis points. Furthermore, reduced income tax revenues and increased pension obligations/healthcare liabilities explain about half of the relationship's effect.

Downing and Zhang (2004) examine how trading volume relates to price volatility with 219,902 municipal bond-week observations between 2000 and 2002. Their results show a positive association between bond trading frequency and its price volatility. Yet the findings also indicate that bond price volatility is negatively related to the average transaction size.

Ely, Martell, and Kioko (2013) use a sample of 4,144 insured bond issuances in Texas between 2000 and 2009 to investigate the structure of municipal bond credit rating fees. They find that higher rating fees are related to an issuance's complexity and periods of market uncertainty. Individual rating fees can be lowered with a prior relationship with a credit rating agency or by purchasing multiple ratings. The Fitch rating fees appear to be slightly cheaper than either S&P or Moody's.

Allen and Dudney (2008) examine whether the S&P's or Moody's rating has a greater effect on primary issue pricing using 12,562 municipal bond issues between 1986 and 2002.

Their sample indicates that Moody's rates more issuances and tends to give more conservative ratings compared to S&P's, though Moody's superior market share has declined in the sample period's later years. They also find that Moody's ratings influenced bond yields more than S&P's ratings; however, there is no significant difference in the latter half of years in the sample period.

Robbins and Simonsen (2007) explore if bond interest cost differences are found between bonds sold with and without competitive bidding. With a sample of 161 individual bond issues from Missouri municipalities from May 2004 to May 2005, they find that only 11 percent of municipal bond issues were subjected to competitive bidding. Bonds with competitive bidding are found to have less TIC than those without competitive bidding.

Butler (2008) examines if the in-state presence of an investment bank leads to comparative pricing advantages for municipal debt. Using a sample of 2,191 taxable municipal bonds from 1997 to 2001, results demonstrate that investment banks with an in-state presence charge municipalities lower debt fees and issue bonds at lower yields compared to investment banks without an in-state presence (especially for lower rated or non-rated bonds). This suggests that investment banks with an in-state presence have a comparative advantage through incremental information from local connections.

Singla and Luby (2019) explore the factors associated with debt-related derivatives between 2003 and 2010 for 50 large U.S. cities. Greater amounts of recently issued bonds, lower credit ratings, and prior derivative experience are all shown to lead to greater use of debt-related derivatives. Financial condition ratios and the form of government generally does not lead to more debt-related derivative usage.

I also cite some research that looks at how bond insurance factors into bond ratings and debt costs. As well, historical data provides some evidence of important bond trends and recessionary effects.

Brune and Liu (2011) study how municipal bonds are affected by historical insurance company downgrades that occurred during the 2008 financial crisis. A sample of 2,540 insured municipal bonds with maturity dates between 2009 and 2038 are analyzed. The measure of bond risk premium is found to have increased during two of three insurer downgrades during the crisis. Furthermore, bonds insured by other insurance companies also suffered from heightened risk premium from each of the historical insurer downgrades.

Ely (2012) models bond insurance premiums and usage with a sample similar to Ely et al. (2013). The analysis shows that credit spreads between higher and lower rated bond issuers have increased over time, suggesting lower rated local governments faced greater debt costs than before. Also, local governments with higher ratings are significantly more likely to have access to bond insurance than those with lower ratings during crisis periods.

Liu (2012) develops a model to establish if municipal bond premiums can predict future bond ratings. With a sample of 720 California municipal bonds issued from 2001 to 2005, the analysis indicates that higher municipal bond insurance premiums have explanatory power on future rating downgrades after controlling for current ratings. The association does not hold for future rating upgrades.

Directions for Future Research

Previous literature has investigated internal determinants of debt (e.g., Palumbo and Zaporowski 2012). Factors outside of government finances and characteristics could also be

associated with debt. For example, bonds ratings could be associated with intergovernmental transfers either positively as a higher governmental entity as showing a stake in the local government or negatively as a sign of distress with reliance on outside funding. Debt risk could also be influenced by local publicity (e.g., after a tragic event/scandal or good news).

Many debt investigating studies use objectively reported measures to assess debt consequences (e.g., Kioko et al. 2013; Pridgen and Wilder 2013). However, textual disclosures could provide incremental information to municipal analysts. Thereby, subjective disclosures found in the financial report could influence bond interest costs or ratings (e.g., Maher and Deller 2011). Do analysts also detect any optimism (or pessimism) within governmental finance officer disclosures?

Daniels et al. (2010) study the determinants of bond maturities. A potential continuation could occur from how governments pay for the debt at maturity. As a bond reaches its maturity date, how specifically do governments plan to cover the debt principal? Issuing more debt, utilizing funding reserves, or implementing tax increases are several strategies that could be used to cover the proceeds needed to close the bond obligation.

Future research could also investigate if municipal analysts recognize debt or reporting trends. Specifically, do bond yields and ratings reflect governments' information trends? Disclosure trends such as continual positive (negative) budget-to-actual variances (e.g., Callahan and Waymire 2015) could demonstrate long-term stability (instability) to bond analysts. Debt frequency (or maturity) trends may signal overreliance, long-term uncertainty, or structural growth that could affect debt costs.

FINANCIAL CONDITION TOPICS

Often measured by various ratios and composite methodologies from financial reporting information, financial condition is another important topic of research within this literature review. Several papers build and test their financial condition models or critique existing measures. Financial condition can result in external reactions or internal assessment. Establishing an accurate financial condition may allow overseeing governments to appropriately react to or prevent extreme fiscal distress. Certain government characteristics may contribute to poor financial condition. Moreover, unsustainable finances may eventually lead to a government's bankruptcy. However, some common financial condition methodologies might misclassify the fiscal health of governments due to unique or non-measurable factors. Case studies may better analyze the individual factors associated with fiscal distress.

I separate the financial condition topics into two categories: (1) Indicators and (2) fiscal health associations.

Indicators

Financial condition indicators seek to identify whether a state or local government has sustainable financial management practices or is at risk to encounter fiscal distress from unsustainable practices. Governmental reporting models (i.e., GASB 34) can offer support on short- and long-term condition. Researchers have developed their own financial condition indicators based on numerical and subjective data to assess prediction value. State governments may also use their own systems to monitor local governmental fiscal health.

[TABLE 1.9 ABOUT HERE]

With GASB 34's updated financial reporting model, the authors in the following six studies have chosen to develop updated governmental financial condition measures and assess governments using these measures. More precisely, they are utilizing the information content contained within GASB 34-based statements as enhanced financial condition indicators to detect a government's strengths and weaknesses.

Kloha et al. (2005a) critique previous indicators of local government fiscal distress and build a composite ten-point binary model to predict fiscal distress in Michigan local governments from 1993 to 2001. Their model appears better able to detect early warnings of fiscal distress than Michigan's current detection system. They suggest local governments could better monitor their own financial condition before extreme distress occurs, rather than rely on state monitoring.

Rivenbark, Roenigk, and Allison (2010) analyze the financial reporting model prescribed by GASB 34 and develop a framework for assessing the financial condition of state and local governments. Their framework suggests measuring financial condition with aspects of both fund and government-wide indicators, both accrual and modified accrual resources, and including considerations of the flow and stock of resources. They view dashboards as an essential tool to minimize unnecessary data while communicating financial condition to stakeholders regardless of their knowledge of governmental accounting/reporting.

Kioko (2013) presents indicators of financial condition using GASB 34 information to study how states fared over the period 2002-2010. The analysis indicates that states had the best operating and financial positions between 2004 and 2007, while having the worst operating and financial positions between 2009 and 2010. The recessionary effects appear to have hurt larger states more than smaller states (partially due to selected smaller states having significant natural

resource revenues and sustainable long-term debt). Weaker states' financial positions post-recession is found to have downgraded bond ratings.

Wang et al. (2007) measure state financial condition based on GASB 34's government-wide reporting using state financial data from 2003 to 2004. They find that cash, budget, long-run, and service-level solvency dimensions based on GASB 34 provide a relatively reliable and valid financial condition measure. They notice that short-term and long-term indicators are interrelated in assessing the overall state fiscal condition. As well, states are found to have strong cash solvencies, while varying significantly in other solvency areas.

Wang and Liou (2009) study how states' financial condition changed over fiscal years 2003-2004. Results of the financial condition change analysis indicate budgetary solvency improved over the time span, while cash solvency worsened (but remained healthy). They also determine that the budgetary solvency improvement is related to long-term and service solvency improvements.

Arnett (2014) builds a composite measure of fiscal condition to rank each state using 2012 CAFR data. By weighting several solvency measures targeting cash, budget, long-run, and service-level aspects, the results indicate that the top states better balance their budgets by matching revenues with expenses, carry sufficient liquid assets to cover short-term debt, and have adequate strategies to manage long-term debt. The worse states tend to have one or more fiscal condition aspects poorly managed creating an unsustainable scenario.

A couple papers cited afterward critique prior measures of financial condition. Both recommend specific refinements or considerations of governmental characteristics to increase the validity of detecting financial condition.

Clark (2015) examines the validity and reliability of the composite financial condition index developed by Groves, Godsey, and Shulman (1981). With a sample of 117 Ohio municipalities from 2004 to 2010, the results show the financial condition index is inconsistent in both reliability and validity. Results also show a similar pattern when divided into the four separate sub-indices (cash, budget, long-run, and service). A more tailored indicator is suggested to be more beneficial than developing a universal financial condition measure.

McDonald (2017) tests several financial condition measures using 150 municipalities from the Fiscally Standardized Cities (FiSC) database. Both debt service ratio and cash ratio had significant bankruptcy prediction power. The Brown 10-point test (Brown 1993) is found to not be statistically significant in predicting bankruptcy decisions, while the financial condition index from Wang et al. (2007) only showed significance in its deconstructed form. The author suggests indicator systems that utilize a series of variables are more meaningful for describing financial condition than systems that utilize an index.

Beyond the usual indicators built from numerical figures, two studies examine descriptive indicators of financial condition. They attempt to find if these descriptive indicators align with other commonly used financial condition measures (see above papers).

Maher and Deller (2011) investigate whether self-reported descriptive indicators of fiscal condition align with commonly used measures with a sample of 320 Wisconsin municipalities for years 2004 to 2007. The results of financial and survey data show that subjectively reported fiscal indicators are only slightly associated with the objectively used common fiscal condition measures. They suggest that their findings may be a result of commonly used measures being inadequate proxies or municipalities may strategically or unintentionally overestimate their fiscal condition.

Maher and Deller (2013) further Maher and Deller (2011) by using financial data from 55 Wisconsin counties' CAFRs from 2009 to examine if self-reported descriptive indicators of fiscal condition are related to government-wide indicators from GASB 34's guidance. Similar to their 2011 study, they find that subjectively reported financial condition indicators have a small association with government-wide ratios and measures. However, this sample and period demonstrated more significant relationships between subjective measures and the measures used in their other study (e.g., financial position, liquidity, and support rate).

The remaining research papers suggest an extension to the use of financial condition indicators with state monitoring of local governments. Since state governments are a stakeholder in their local governments, the research cited proposes that early detection of local government financial condition could help states strategize and plan potential aid. These papers assess the extent and effectiveness of state monitoring.

Kloha, Weissert, and Kleine (2005b) survey every state on how they use indicators and monitor their local governments' financial conditions. Respondents indicated that only 15 states used some indicators to assess their local governments. Although, some respondents voiced a desire to further their role in measuring and predicting local fiscal distress. They suggest the current mix of indicators for early warning detection may still lead to Type II errors in failing to identify local governments before financial distress occurs.

Spreen and Cheek (2016) examine if state monitoring influences their local governments' fiscal condition with a sample of Michigan counties and municipalities between years 2006 and 2011. Using local governments from neighboring states as a non-monitoring group, they find that Michigan's Fiscal Stress Indicator System had minimal impact on their local government's fiscal condition as compared to the control group from neighboring states. However, they suggest early

detection could allow states to provide their local governments assistance before extreme duress occurs.

Crosby and Robbins (2013) assess Michigan's municipal fiscal indicator monitoring system and provide recommended changes for more effective measurement. Michigan's measure that focuses predominantly on the general fund shows that only between 8 and 18 percent of their cities are under fiscal watch and between 1 and 2 percent of their cities are under fiscal stress for years 2007 to 2009. Using the same sample of cities, they test a proposed ten-point indicator system incorporating governmental and business-type activities and find significantly more cities under fiscal strain (between 34 and 36 percent under fiscal watch and between 5 and 7 percent under fiscal stress) than what Michigan's indicator shows. This new fiscal indicator is suggested to better detect municipalities' ability cover both current and long-term debt.

Gerrish and Spreen (2017) test financial condition ratios in North Carolina local governments from 2008 to 2014 to assess the effects of the state's financial benchmarking and monitoring tool implemented in 2010. The results indicate an isomorphic effect after 2010 where the mean of many financial condition indicators remained steady, but standard deviations and interquartile ranges narrowed. Moreover, a significant number of top performing governments decreased financial condition following state monitoring.

Fiscal Health Associations

In this section, the research presented examines measures or signals of fiscal health. Several of the studies test how well their models correctly predict fiscal distress/bankruptcies or subsequent outcomes. Some research tests the regulatory or political environment's effect on

fiscal health. Other papers investigate associations between fiscal health and government characteristics or financial information.

[TABLE 1.10 ABOUT HERE]

Seven papers below assess how financial information and government factors indicate fiscal distress. Several reporting attributes and economic conditions are found to predict impending distress. Certain government financial officer behaviors and spending decisions can occur in the presence of fiscal health. Also, state action may arise from poor local government fiscal health.

Gorina, Joffe, and Maher (2018b) select a sample of municipalities with the period 2007-2016 to analyze how fiscal ratios predict fiscal distress. They find evidence that unreserved general fund balances and unrestricted net assets reduce the likelihood of municipal defaults and bankruptcies. However, the relationship is negative for long-term liabilities and unemployment rate. They also identify the 60 municipality-year observations with the highest predicted likelihood of fiscal distress.

Trussel and Patrick (2009) develop and test a model of fiscal distress with a sample of 19,126 Pennsylvania municipality-year observations over years 1998 through 2005. Their fiscal distress model constructed from hypothesized risk factors (such as revenue concentration and debt) is found to correctly classify 91 percent of sample municipalities. Increases in intergovernmental revenue, lack of revenue growth, decreases in administrative costs, and increases in debt usage all increase the risk of financial distress.

Beck and Stone (2017) critique the findings of past research on the determining factors of failing governments. They also use GASB data to add some rationale on identified contributing factors and highlight some weaknesses on existing going concern processes. They suggest municipalities generally do not exclusively fail via only fiscal stress, but rather due to both not adapting to changing conditions and lacking in opportunities and services that citizens expect. Their promoted implication is that going concern disclosure guidance should include service efficiency to enhance evaluating financial condition and recommendations about dissolutions.

Modlin and Stewart (2014) determine the factors within North Carolina counties that are associated with receiving a fiscal distress notification from the state government. Analysis shows that 34 out of the 100 sample counties received a fiscal distress notice in fiscal year 2009. Counties with greater salaries and wages, debt service payments, and the presence of a countywide water policy had increased the likelihood of receiving a state notice of potential financing problems requiring immediate action. However, having higher unreserved general fund balances decreased this fiscal distress notice probability. A majority of counties corrected their financial issues after receiving the notice.

Trussel and Patrick (2013) develop and test a model of public service reduction with a survival analysis. Using a sample of 37,688 municipality-year observations from 1995-2007, their fiscal distress model correctly classifies 83 percent of sample municipalities that either reduced public services or not. The findings demonstrate that municipalities are more likely to reduce public services when the percentage of intergovernmental revenue rises, the amount of debt rises, and the amount of capital spending to total liabilities and bond proceeds lowers.

Gorina, Maher, and Joffe (2018a) use a sample of about 300 city and counties from California, Michigan, and Pennsylvania from 2007 to 2012 to test if CAFR data is associated

with personnel-based signals of fiscal distress. The results show that both a reduced proportion of fiscal reserves to spending (i.e., cash solvency) and an increased proportion of debt to total revenue (i.e., long-term solvency) lead to an increased likelihood of fiscal distress. Also, property tax reliance reduces the likelihood of fiscal distress, while budgetary solvency, socio-economic factors, and government type appear uninformative.

Singla, Stritch, and Feeney (2018) investigate whether financial condition changes impact cities' entrepreneurial orientation (e.g., risk-taking and innovation). Using a 2012 survey of local government managers and financial report data from 2008 to 2014, they find that changes in unabsorbed resources (i.e., operating ratio) are related to a lower entrepreneurial orientation. Since absorbed resource changes (i.e., net asset ratio) do not significantly affect entrepreneurial orientation, the author suggests government managers react to meet short-term resource expectations.

The next two articles explore how regulatory restrictions and bureaucracy affect municipal fiscal health. Both factors are suggested to impact municipalities' financial conditions.

Jimenez (2017b) utilizes a sample of 268 cities with at least 50,000 in population to assess whether surveyed public managers' external networking orientation (i.e., stakeholder communication frequency) is related to fiscal health during the Great Recession (years 2008-2010). Results indicate that both perceptions and CAFR-based ratios of budgetary solvency are associated with external networking. Specifically, the analysis show a nonlinear relationship where some external networking improves government fiscal health while too much external networking deteriorates fiscal health.

Jimenez (2017a) analyzes the effect of bureaucracy on fiscal health. With the same survey sample as Jimenez (2017b) and including CAFRs from 2007 to 2013, budgetary solvency

appears worse as the level of composite bureaucracy index increases. Within the bureaucracy index, centralization (i.e., city manager authority) and formalization (i.e., rule and procedure documentation) are significant factors in the relationship. The factor of hierarchy (i.e., number of authority layers) is insignificant.

Shown below are two studies that use historical data to examine the value of models to predict bankruptcies. Findings demonstrate that fiscal indicators are often unreliable at predicting bankruptcies ex-ante.

Singla, Comeaux, and Kirschner (2014) examine whether bankrupt cities were more financially distressed according to current fiscal health indicators than others using a sample of three Californian cities from 2008 to 2012. As compared to 58 other cities with comparable populations, the current models shows that the three bankrupt cities were more financially strained than the sample median, but were not significantly different from some other financially strained cities that avoided bankruptcy. They suggest current fiscal health indicators may not be sensitive enough to predict bankruptcy (or may omit certain financial considerations like unfunded pensions or OPEB liabilities).

Fischer, Marsh, and Bunn (2015) study the fiscal health of bond issuers using 85 Texas state and local municipal entities that issued bonds in 2011 or 2012. They find that only one entity is considered financially distressed according to Z-scores, however, ten entities (including some of the largest cities) are considered in a financial gray zone. Additionally, only a weak negative correlation is found between Z-scores and bond rating.

As shown previously, an overarching measure of financial condition may inappropriately categorize whether a government is in fiscal distress. A more tailored research method may be needed to correctly identify each government's level of fiscal distress. Thereby, case studies are

relevant to detect individual sources of financial decline. The two studies cited below specifically used the Detroit area to locate specific contributing factors to municipality fiscal distress.

Stone, Singla, Comeaux, and Kirschner (2015) use a case approach to assess the effectiveness of current financial condition indicators. By calculating financial indicators for Detroit between fiscal years 2002 and 2012, they find that many indicators saw a gradual decline or no concern. Leverage, taxes per capita, revenues per capita, and expenditures per capita were the only indicators showing a sharp decline. Asset and liability, operating solvency, and business type activity categories of indicators were most effective in identifying Detroit's deterioration.

Clark and Gorina (2017) use a case study investigation of three Detroit area municipalities to assess the effectiveness of emergency financial management in addressing fiscal distress. Using CAFR data from these three municipalities, they find that emergency financial management is able to improve financial condition in times of economic depression. However, most improvements are short-term fixes. They suggest that administrative reforms and long-term development investments are needed to improve financial condition in the long-run.

Directions for Future Research

States monitoring local financial conditions provide some influence on local governments' financial decisions and reporting (e.g., Crosby and Robbins 2013; Spreen and Cheek 2016). On the opposite perspective, what reactions do states have in monitoring local financial conditions? By monitoring local financial conditions, states may be more likely to issue state aid to supplement shortfalls. States may also recognize deficiencies in specific local government characteristics or fund types and choose to provide more restrictive-purpose

intergovernmental funding. Conducting a survey could confirm states' reactions, including how these officials communicate with local finance officers on local financial condition inquiries.

In examining factors that relate to local government financial failures, Beck and Stone (2017) find that the inability to adapt and fulfill opportunity expectations contributes to fiscal distress. A survey design could assess how different outside stakeholders feel governments should handle and prevent fiscal distress. Such findings may indicate what sacrifices citizens or local businesses might be willing to make to minimize or prevent local government fiscal distress. Additionally, would these perceptions align with finance officers' actions (e.g., Gorina et al. 2018a)?

As fiscal distress factors are found to be associated with service reductions (e.g., Trussel and Patrick 2013), are there priorities to where cutbacks are made? In other words, there may be certain fund types that are preferred or neglected (or even eliminated) during fiscal distress. Furthermore, do governments with better financial condition create or devote more resources to specific fund types?

CONCLUSION

This paper offers a literature review containing financial reporting and disclosure research in the state and local general-purpose government context after GASB 34's establishment. The review also lists research on governmental bonds and financial condition, which are two topics interrelated to governmental financial reporting. As GASB 34 updated the financial reporting model for state and local governments in 1999, much of the subsequent research investigating financial reporting choices and associations has used measures uniquely

transformed by GASB 34's guidance. Taken as a whole, GASB 34 reporting has not only shaped governments' finance managers' reporting choices, but also the reactions of external users (e.g., citizen perceptions or bond market consequences) and how we measure governmental financial condition (or fiscal distress).

There are several implications brought to light within my literature review. The substantial impact of GASB 34 on financial reporting information suggests that user reactions and reporting choices are based on different priorities before and after implementation. Thereby, research results prior to GASB 34 may not generalize to periods after implementation, and vice-versa. This could entail some added noise to research findings that sample both periods pre- and post-GASB 34 (so controlling for post-GASB 34 could be helpful). Also, subsequent reporting standards (e.g., GASB 54) may interact with GASB 34 in unexpected ways.

Besides analyzing how a newer standard supersedes an existing standard, researchers can examine if the information environment is improved by comparing associations between reporting information and external user reactions/perceptions (e.g., bond bid-ask spreads or views of accountability). As well, the cited research on financial reporting show the complementary nature of different research methods used. Even though archival methods are useful for finding financial reporting associations, surveys and interviews provide helpful measures unattainable through other methods (e.g., finance manager strategies) or insight to reporting perceptions (e.g., citizens' perceived access), while case studies are able to analyze individual characteristics and trends lost in large sample modeling. Together, these methods help complete the picture as we seek to further our knowledge of governmental financial reporting.

Since my paper focuses on governmental financial reporting research topics post-GASB 34, this entails other opportunities for literature reviews in other governmental accounting topics.

Governmental auditing and governmental pension/OPEB are two broad topics that are worthy of an upcoming literature review. Both topics contain a unique perspective that signals accountability and sustainability of the reporting governments. These sorts of literature reviews would be important in summarizing the vast existing research (published or ongoing) and guiding future research efforts.

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FIGURE 1

Topics Areas in Post-GASB 34 Governmental Accounting Research

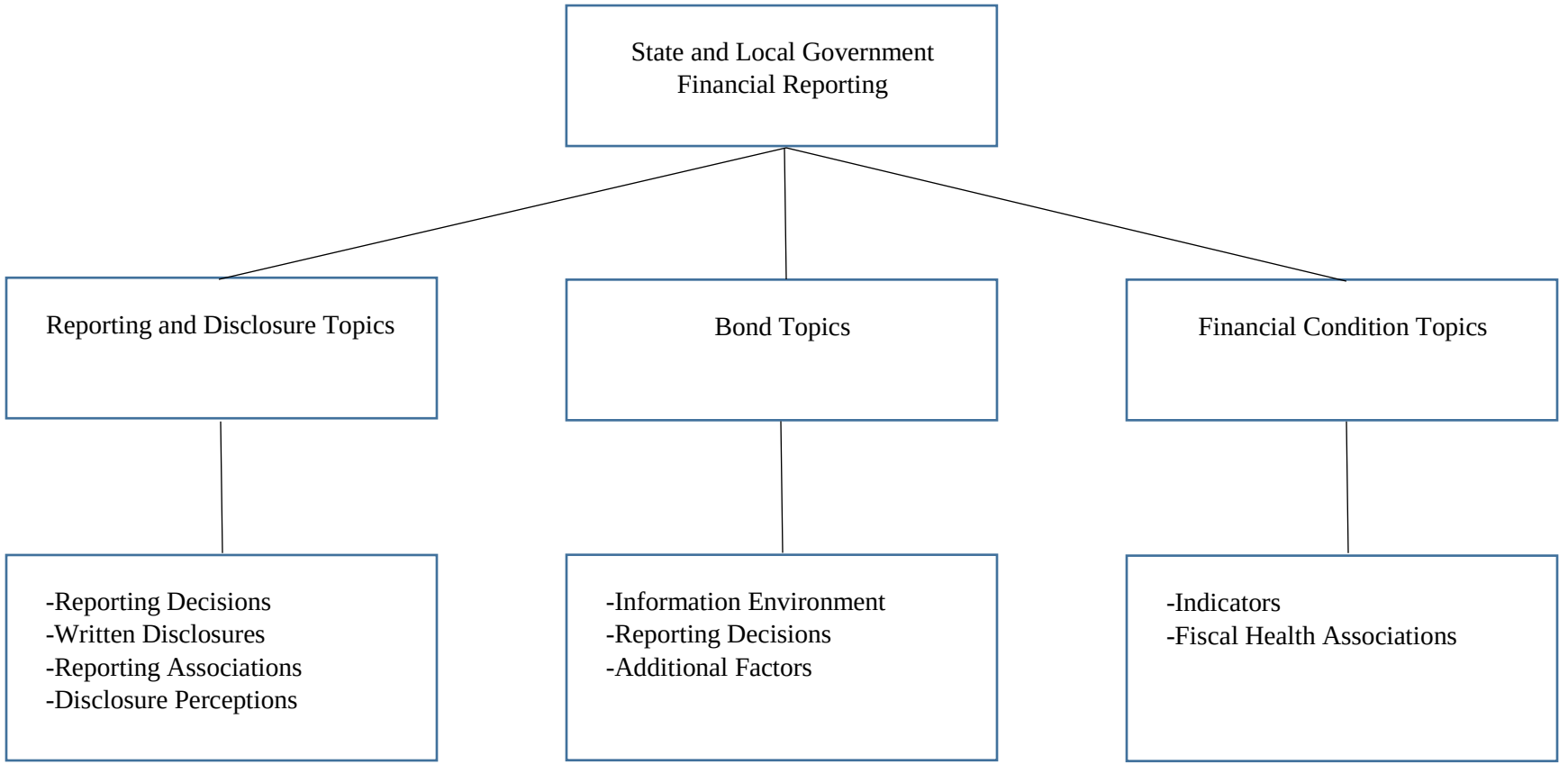

TABLE 1.1

Summary of Overarching GASB 34 Evaluations and Implications

(Shown in order of presentation)

Citation	Research Question(s)	Key Result(s)
Patton and Hutchison (2013a)	How has the governmental reporting model for states and local governments changed over time?	-Governmental reporting often contained significant inconsistencies and measurement uncertainties under prior financial reporting models. -Calls for improved accountability, transparency, and measurement shaped GASB 34's implementation.
Patton and Hutchison (2013b)	What developments led to GASB 34's implementation?	-A diverse set of perspectives shaped GASB 34 to include specific measurement focuses and accounting methods for different new and updated financial statements.
Kinnersley (2016)	How has the totals columns in governmental balance sheets developed from prior periods?	-Presentation of prior totals columns were optional or prohibited. -GASB 34 requires a single consolidated totals column for the combined governmental funds.
Mead (2002)	What are the key features of GASB 34? How does GASB 34 address accountability?	-State and local governments' updated reporting model is to include the MD&A, basic financial statements, and other required supplementary information. -The new requirements provide flexibility in describing financial changes and better display financial condition measures.
Kravchuk and Voorhees (2001)	What are the benefits and costs of GASB 34?	-The enhanced accountability should be most beneficial to both citizens and financial intermediaries. -Significant costs could be incurred to measure and present certain GASB 34 information.
Patton and Bean (2001)	What changes does GASB 34 make to capital asset reporting?	-All capital assets are to be measured with the economic resource flow method. -Capital assets are to be reported in the statement of net assets, while all related expenses are to be reported in the statement of activities.

Wilson and Kattelus (2001)	How will municipal managers and bond analysts use GASB 34 information?	-Managers can better disclose short- and long-term financial condition in GASB 34's reporting, though at a potential higher cost. -Bond analysts can better assess governments' financial efficiency and effectiveness to improve their decisions.
Wallace (2000)	What sorts of research opportunities are available under GASB 34?	-Significant research topics include valuation, presentation, budgeting, and auditing. -Archival, experimental, survey, and field study methods can be useful to examine the important questions regarding GASB 34 reporting.

TABLE 1.2

Summary of Research on Reporting Decisions in Governmental Reporting (Post-GASB 34)

(Shown in order of presentation)

Citation	Research Design	Research Question(s)	Key Result(s)
Patrick (2010)	Survey and Archival	What factors influence local governments to adopt GASB 34?	-Smaller or rural governments are less likely to adopt GASB 34. -Independent auditors and occupational specialization are positively associated with GASB 34 adoption.
Carroll and Marlowe (2009)	Archival	What factors are associated with the GAAP basis?	-Debt issuance and federal intergovernmental revenues are both positively related to GAAP usage.
Khumawala et al. (2014)	Survey and Archival	Does professionalism and awards impact GAAP adoption?	-Accounting degrees and GFOA reporting awards both increase the likelihood of GAAP adoption.
Styles and Tennyson (2007)	Archival	What factors are associated with online reporting?	-Larger municipalities are more likely to place their CAFRs online. -Income per capita and GFOA reporting awards both increase the likelihood of online reporting.
Yusuf et al. (2013)	Survey	What is the availability of popular reporting? Why do local governments issue popular reports?	-Three-quarters of the largest local governments issue PAFRs and/or budgetary summaries. -Understandability and transparency are key rationale behind popular reporting.
Beck (2018)	Archival	Do municipalities use discretionary accruals in their reporting?	-Municipalities are more likely to use discretionary accruals when avoiding a deficit or prior to a bond offering.
Felix (2015)	Archival	Are inter-fund transfers used to manage general fund balance changes toward zero?	-For both positive and negative prior balances, municipalities use inter-fund transfers to drive general fund changes toward zero.
Gore (2015)	Archival	Do unionized municipalities hide fund balances in less transparent funds?	-Unionized municipalities have a lesser percentage of balances in unreserved general

			funds and a greater percentage of balances outside of the general fund.
Gianakis and Snow (2007)	Archival	Is there a preferred financial slack strategy in local governments?	-There is an overall weak association between stabilization fund and free cash strategies. -The use of free cash is preferred over stabilization funds when revenues decrease.
Snow and Gianakis (2009)	Survey	What strategies do municipalities use for stabilization funds?	-Despite stabilization funds being important to maintain, respondents showed caution in using these funds during budgetary shortfalls.
Stewart et al. (2018)	Archival	What fund balance policies do county governments use?	-18 percent of sampled counties have unreserved or unassigned fund balance reserve policies. -Just one county met all of GFOA recommendations on fund balance holdings.
Modlin (2011)	Survey and Archival	Has the use of internal service funds declined?	-Only 27 percent of counties sampled used internal service funds. -Internal service funds were more likely to be used when either the government's budget was larger or there was a cost allocation plan.
Vermeer et al. (2011)	Survey and Archival	How do states report their general infrastructure assets under GASB 34?	-A slight majority of states used depreciation accounting over the modified approach. -States often chose depreciation accounting when lacking a sufficient asset management system.

TABLE 1.3

Summary of Research on Written Disclosures within Governmental Reporting (Post-GASB 34)

(Shown in order of presentation)

Citation	Research Design	Research Question(s)	Key Result(s)
Guo et al. (2009)	Archival	What disclosure quality differences exist in the MD&A?	-Deeper disclosure on conditions, benchmarks, and comparisons were more common in high disclosure quality cities.
Marsh et al. (2004)	Archival	What is the readability characteristics of PAFRs?	-Mean readability of PAFRs is between a 9th and an 11th grade level. -Mean page length is 13 pages with about one image per page.
Marsh et al. (2005)	Archival	What are the readability characteristics of MD&As?	-Mean readability of MD&As is between 8.7 and 12.9 grade level.
Marsh and Montondon (2005)	Archival	Are there readability differences between PAFRs and MD&As?	-Most readability measures detected no significant difference between PAFRs and MD&As. -MD&As often have longer words and sentences than PAFRs.
Lutz et al. (2011)	Archival	Are there MD&A readability differences based on city sizes?	-There are no significant readability differences between small, medium, and large cities. -There are differences in sentence complexity.
Yusuf and Jordan (2017)	Archival	How accessible are MD&As to citizens?	-MD&As are found to average 13.2 pages, above a 12th grade reading level, and issued 203 days after fiscal year-end.
Rich et al. (2016)	Archival	Is MD&A tone associated with future reporting quality?	-There is less future reporting delay when the MD&A has higher positive tone.
Rich et al. (2019a)	Archival	What determinants are related to MD&A tone? Is MD&A tone associated with future internal control quality?	-Council-manager form and education positively predict tone, while deficits negatively predict tone. -There is a negative association between tone and future internal control problems.

Rich et al. (2019b)	Archival	What factors lead to greater year-over-year MD&A textual content changes?	-Unemployment rate and auditor turnover is positively associated with MD&A changes. -Municipal MD&As are more similar when debt changes and in states with GAAP requirements.

TABLE 1.4

Summary of Research on Reporting Associations within Governmental Reporting (Post-GASB 34)

(Shown in order of presentation)

Citation	Research Design	Research Question(s)	Key Result(s)
Sohl et al. (2018)	Archival	What are the determinants of local government total reporting lag?	-Lagged delay predicts audit report delay, report submission delay, and total delay. -Several audit factors shaped the degree of specific delay types.
Rich and Zhang (2016)	Archival	Are municipalities with restatements more likely to have finance officer turnover?	-The presence of a prior restatement increases the likelihood of municipal finance officer turnover.
Costello et al. (2017)	Archival	Do balanced budget requirements influence fiscal decisions?	-When under fiscal stress, asset sales, spending cuts, inter-fund transfers, and tax increases are more likely for states with strict balanced budget requirements.
Marlowe (2009)	Archival	Does budget overspending increase future expenditure budgeting?	-Following overspending, cities are more likely to increase the subsequent period's budgeted expenditures. -General fund balance reduces this relationship, while unreserved and enterprise funds increase this relationship.
Jordan et al. (2017)	Archival	Do states' revenue compositions impact revenue variances?	-Revenue diversification reduces both the likelihood and magnitude of negative variances. -Revenue elasticity reduces the magnitude but increases the likelihood of negative variances.
Jimenez (2018)	Archival	Do tax and expenditure limitations influence city budgetary solvency?	-Cities in states with greater tax and expenditure limitation restrictions show lower unrestricted net position and total net position changes.
Maher et al. (2017)	Archival	How do tax and expenditure limitations affect state's reserves?	-Both expenditure limits and combined revenue and expenditures limits show a marginal negative relationship with total reserves.

Kim and Ebdon (2017)	Archival	How does GASB 34 infrastructure reporting impact capital expenditures?	-Capital spending increased following GASB 34 infrastructure implementation, but not maintenance expenditures. -There are not any significant differences in capital expenditures between infrastructure reporting methods.
Kim et al. (2018)	Archival	Does GASB 34 infrastructure reporting increase infrastructure condition?	-State highway condition improved after GASB 34 infrastructure reporting. -The modified approach showed higher infrastructure quality than the depreciation method.
Gore (2009)	Archival	What determinants influence municipality cash holding levels?	-Revenue variation, growth, and scarcity positively predict cash holdings. -Population and state aid negatively predict cash holdings.
Arapis and Reitano (2018)	Archival	What are the determinants of city financial savings?	-Cities with higher property taxes, debt service expenditures, and populations have an increased likelihood of being below GFOA's fund balance recommendations. -Cities were more likely to meet fund balance recommendations when enterprise transfers, general expenditures, and wealth is greater.
Stewart et al. (2013)	Archival	Do revenue sources and volatility affect financing saving in counties?	-Property tax, intergovernmental, and other revenue types are positively related to unreserved fund balances. -Unemployment negatively influences unreserved balances.
Guo and Wang (2017)	Archival	What factors influence county unreserved fund balances? Are these factors dependent on neighboring county levels?	-Revenue volatility and property tax rates are positively associated, while unincorporated population is negatively associated with unreserved balances. -Property tax and unincorporated population factors are partially dependent on neighbor level of these factors.

Stewart (2011)	Archival	Does county government type influence unreserved fund balance levels?	-In economic upturns, unit form counties had a positive relationship between unreserved balances and intergovernmental revenue, but a negative relationship between unreserved balances and income per capita. -The relationships for beat form counties were in the opposite direction.
Hendrick (2006)	Archival	How does financial slack impact future conditions and decisions?	-Revenues less expenditures and long-term condition are positively related to the level of unreserved fund balances.
Su and Hildreth (2018)	Archival	Does financial slack affect future note debt issuances?	-The likelihood of issuing short-term notes is decreased as unreserved fund balances increase.
Johnson et al. (2012)	Archival	Do credit rating agencies use and prefer certain GASB 34 information?	-Credit ratings reflect GASB 34's government-wide information. -General fund information appears to be preferred over whole government information.
Davies et al. (2017)	Archival	Are net assets influenced by nonfinancial information?	-Property values and mayor-council government form are positively related to liquid net assets. -Violent crime and unemployment are negatively related to liquid net assets.
Chase and Roybark (2013)	Archival	How has GASB 54 affected fund balance reporting?	-Only a slight increase has occurred from previous unreserved fund balances to the updated unrestricted fund balances.
Kelly (2013)	Archival	How have prior fund balances been allocated into GASB 54 balances?	-All reserved fund balances and some unreserved fund balances were allocated to the updated non-unassigned balance types. -The majority of reserved amounts were allocated to the updated committed and assigned balances.
Plummer and Patton (2015)	Archival	Do government-wide measures show sustainable practices in 2008?	-Most states in 2008 have negative adjusted total net asset balances -A majority of states had an average deficit over $1,000 per household for this measure.
Snow et al. (2008)	Archival and Simulation	Can municipalities withstand simulated economic downturns?	-About 16 percent of municipalities have insufficient slack resources to cope with a high severity recession.

Ross et al. (2015)	Archival	How stable were large cities' financial balances during the Great Recession?	-Intergovernmental and other revenues decreased during the recession. -Deficits were minimized by raising property taxes and reducing net assets.
Stewart (2009)	Archival	Do the determinants of unreserved fund balances change during economic upturns and downturns?	-During economic upturns, property taxes and per capita income positively predicted unreserved balances. -During economic downturns, population positively predicted unreserved balances.
Wang and Hou (2012)	Archival	What factors affect general fund balances? Do general fund balance levels impact recessionary expenditures?	-Tax revenues and wealth are positively associated with general fund levels, while capital outlays and unemployment are negatively associated with general fund levels. -General fund levels do not significantly affect the expenditure gap.
Sacco and Busheé (2013)	Archival	How did revenues and expenditures change between recessions?	-Net assets grew between recessionary periods. -Revenues shrunk faster than expenditures during the 2007 recession.
Stewart et al. (2017)	Archival	Are future expenditures influenced by financial slack during recessions?	-Higher unrestricted governmental activity fund balances reduce future expenditure gaps in economic downturns.
Rivenbark et al (2018)	Archival	How were capital asset levels and condition impacted by the Great Recession?	-The recessionary period had only a minor effect on lowering depreciable capital asset amounts.

TABLE 1.5

Summary of Research on Disclosure Perceptions in Governmental Reporting (Post-GASB 34)

(Shown in order of presentation)

Citation	Research Design	Research Question(s)	Key Result(s)
Frank and Gianakis (2010)	Survey	What are financial officers' perceptions of GASB 34's reporting model?	-The MD&A is viewed as beneficial in describing financial condition. -Some viewed the model as being costly. -Some disagreed on the new model improving information to bond raters.
Lu (2007)	Interview	How do state financial managers in local oversight roles view GASB 34 reporting?	-Participants viewed GASB 34 as easier to follow. -The MD&A, government-wide statements, and reconciliation components were seen to increase accountability.
Frank et al. (2005)	Survey	Do finance officers believe that GASB 34 will improve forecasting?	-The presence of having an advanced degree and forecasting software were significant in officers viewing GASB 34 as more helpful in forecasting.
Bloch (2016)	Survey	Do municipal analysts feel that GASB 34 improves reporting quality?	-Reporting information and transparency is viewed as improved. -Respondents still view the necessity to contact governments for clarifications.
Fischer and Holmes (2018)	Survey	Does GASB 77's tax abatement requirements meet users' needs?	-A majority of respondents had a favorable view of tax abatements. -Several requested pieces of tax abatement information is not currently required by GASB 77.
Hunt et al. (2014)	Survey	What are municipal analysts' perceptions of fair values within the fund financial statements?	-Investment fair values were viewed as no more beneficial than cost information.

Kloby (2009)	Interview	What are finance officers' views on PAFRs?	-Communication, citizen confidence, and flexibility were viewed as important reasons to issue PAFRs.
Mead and Marlowe (2011)	Survey	How do governmental stakeholders feel reporting timeliness influences information usefulness?	-Municipal analysts, finance officers, and researchers view reporting delay to rapidly decrease the information's usefulness. -Current average reporting delay is viewed as too long to be very useful.
Yusuf et al. (2017)	Survey	What are citizens' perceptions on local government financial disclosure?	-Transparency and accessibility of information were rated highly, while accountability was rated average. -Information dissemination was deemed very passive.
Jordan et al. (2016)	Interview and Survey	What are citizens' preferences and concerns on local government reporting?	-Information on revenues were preferred over expenditures, while information on taxes were preferred over fees. -Reporting timeliness was a concern.

TABLE 1.6

Summary of Research on the Information Environment within Governmental Bonds (Post-GASB 34)

(Shown in order of presentation)

Citation	Research Design	Research Question(s)	Key Result(s)
Marlowe (2010)	Archival	Does GASB 34 information influence bond pricing differently in primary and secondary markets?	-Government-wide information is helpful in bond pricing in the secondary market, but not the primary market.
Kioko et al. (2013)	Archival	What types of GASB 34 measures are associated with secondary market bond pricing?	-Both net position and revenues less expenses are associated with average secondary bond pricing.
Pridgen and Wilder (2013)	Archival	Are types of GASB 34 financial measures related to municipal debt ratings?	-Financial position, performance, liquidity, and leverage measures are associated with underlying debt ratings.
Benson and Marks (2014)	Archival	Do GASB 34 measures influence bond ratings and bond insurance premiums?	-Both unrestricted net assets and capital assets less related debt are positively related to bond ratings and bond insurance premiums.
Reck and Wilson (2014)	Archival	Does GASB 34 accrual information better explain bond interest costs than prior to GASB 34?	-The government-wide accrual model better explains net interest cost than the pre-GASB 34 general fund model.
Callahan and Waymire (2015)	Archival	Are budget-to-actual variance disclosures related to bond ratings?	-Cities strive for small favorable variances. -Favorable expenditure variances are positively associated with bond ratings, but negatively for favorable revenue variances.
Amrahova et al. (2017)	Archival	Does municipal fiscal health influence bond yields?	-Fiscal health has a small impact on secondary market bond yields.
Baber and Gore (2008)	Archival	Does a GAAP reporting requirement influence debt usage characteristics?	-GAAP states receive lower true interest costs and utilize greater proportions of public debt. -GAAP states show no significant differences in overall debt usage compared to non-GAAP states.

Gore et al. (2016)	Archival	Are internal control issues associated with municipal bond markups?	-Internal control material weaknesses are associated with larger markups. -Bonds take longer to sell when material weaknesses are present.
Charles and Shon (2018)	Archival	Do debt levels impact state bond interest costs?	-There is an insignificant association between debt levels and future true interest costs.
Baber et al. (2013)	Archival and Survey	Do accounting restatements affect municipal debt characteristics?	-The true interest cost tends to rise following a restatement. -Municipalities issue less debt after a restatement occurs.
Beck et al. (2018)	Archival	Does information ambiguity impact bond yields?	-The penalty on bond yields is more severe for negative ambiguity than the reward for positive ambiguity.

TABLE 1.7

Summary of Research on Reporting Decisions within Governmental Bonds (Post-GASB 34)

(Shown in order of presentation)

Citation	Research Design	Research Question(s)	Key Result(s)
Benson and Marks (2017)	Archival	Does the infrastructure asset reporting method influence bond ratings?	-The interaction between the modified approach and government-wide measures is associated with state bond ratings.
Bloch et al. (2016)	Archival	Does the infrastructure asset reporting method impact secondary bond bid spreads?	-States using the modified approach experience lower bond auction bid spreads compared to those using the depreciation approach.
Marlowe (2011)	Archival	Are credit ratings affected by the level of slack resources?	-There is a small positive relationship between budgetary slack and credit quality. -Governments can decrease the probability of a lower rating by holding at least minimal slack.
Grizzle (2010)	Archival	Do budget stabilization funds impact bond ratings?	-States with weak deposit budget stabilization policies are positively associated with bond ratings. -States with weak withdrawal budget stabilization policies are negatively associated with bond ratings.
Apostolou et al. (2014)	Archival	Is equilibrium spending associated with debt costs?	-True interest costs are minimized when revenues match expenditures in the general fund.
Henke and Maher (2016)	Archival	Does reporting timeliness influence both bond ratings and costs?	-Reporting delay is negatively related to bond ratings. -A reduced delay lowers interest costs.
Edmonds et al. (2017)	Archival	How are bond ratings and yields affected by information timeliness?	-Higher combined audit and post-audit delay leads to both lower bond ratings and initial yields.
Wang (2012)	Archival	Does online reporting impact debt costs?	-True interest cost is lower when states issue online budget reports, but not online CAFRs.

Gillette et al. (2018)	Archival	Are financial disclosures different after a bond rating upgrade?	-Upgraded municipalities after Moody's recalibration displayed less financial disclosures compared to those rated by S&P and not recalibrated.

TABLE 1.8

Summary of Research on Additional Factors in Governmental Bonds (Post-GASB 34)

(Shown in order of presentation)

Citation	Research Design	Research Question(s)	Key Result(s)
Palumbo and Zaporowski (2012)	Archival	What are the determinants of bond ratings?	-Per capita income, population growth, and worker earnings changes are positively associated with bond ratings. -Unemployment is negatively associated with bond ratings.
Daniels et al. (2010)	Archival	What are the determinants of municipal debt maturities?	-Bonds with higher ratings are found to have longer maturities compared to bonds with lower ratings.
Butler and Yi (2019)	Archival	Does population aging affect bond issuance costs?	-Higher proportions of populations over the age of 65 increases bond yield spreads. -Half of the relationship is explained by income tax reductions and pension or healthcare increases.
Downing and Zhang (2004)	Archival	Does municipal bond trading volume impact price volatility?	-Average transaction size is negatively related to price volatility. -Trading frequency is positively related to price volatility.
Ely et al. (2013)	Archival	What factors are related to municipal bond credit rating fees?	-Issuance complexity and periods of market uncertainty increase rating fees. -Prior rating agency relationships and multiple rating purchases lower rating fees.
Allen and Dudney (2008)	Archival	What rating agency bond rating has a greater influence of issue pricing?	-Moody's ratings influence bond yields more than S&P's ratings. -Moody's ratings are more common and more conservative than S&P's ratings.

Robbins and Simonsen (2007)	Archival	Does competitive bidding affect bond interest costs?	-Bonds with competitive bidding had lower true interest costs than those without competitive bidding.
Butler (2008)	Archival	Does investment bank in-state presence impact bond pricing?	-When investment banks have an in-state presence, they charge municipalities lower debt fees and issue bonds with lower yields.
Singla and Luby (2019)	Archival	What are the bond and financial determinants of debt-related derivatives?	-Higher amounts of recently issued bonds, lower bond ratings, and more derivative experience increases the use of debt-related derivatives.
Brune and Liu (2011)	Archival	How do historical insurance downgrades affect municipal bonds?	-Several insurer downgrades were associated with market risk premiums during the 2008 financial crisis.
Ely (2012)	Archival	What is the trend of bond insurance premiums?	-Bonds with higher ratings are more likely to have bond insurance, especially during economic downturns. -Credit spreads have increased between high and low quality issuances.
Liu (2012)	Archival	Are bond insurance premiums associated with future ratings?	-Higher municipal bond insurance premiums are associated with future rating downgrades.

TABLE 1.9

Summary of Research on Indicators within Governmental Financial Condition (Post-GASB 34)

(Shown in order of presentation)

Citation	Research Design	Research Question(s)	Key Result(s)
Kloha et al. (2005a)	Survey	Can a composite model predict local government fiscal distress?	-The composite model better detects early warnings of fiscal distress than current detection methods.
Rivenbark et al. (2010)	Review and Case Study	How can GASB 34 be used to develop a measure to assess state and local government financial condition?	-The framework should include both fund and government-wide, both accrual and modified accrual, and resource flow information.
Kioko (2013)	Archival	What are states' financial conditions based on GASB 34 information?	-States' operating position and financial position were highest prior to the 2008 recession, and lowest afterward. -Larger states' financial condition measures were lowered more than smaller states' measures were during the recession.
Wang et al. (2007)	Archival	What are states' financial conditions based on government-wide reporting information?	-Cash, budget, long-run, and service level solvency dimensions develop a reliable financial condition measure. -States tended to have strong cash solvencies, but varied in other solvency areas.
Wang and Liou (2009)	Archival	How has states' financial conditions changed from 2003 to 2004?	-Budgetary solvency is found to have increased, while cash solvency slightly decreased.
Arnett (2014)	Archival	How do states rank via a weighted composite fiscal condition measure?	-The best states had solid measures of each solvency factor. -The worst state had at least one or more solvency measure being unsustainable.
Clark (2015)	Archival	Is a prior composite financial condition index valid and reliable?	-The Groves et al. (1981) index is found to not be reliable and valid for a sample of municipalities.

McDonald (2017)	Archival	Do commonly used financial condition indicators predict bankruptcies?	-Debt service and cash ratios significantly predicted municipality bankruptcy decisions. -Brown's 10-point test and the index from Wang et al. (2007) did not significantly predict bankruptcies.
Maher and Deller (2011)	Survey and Archival	Do subjectively reported financial condition indicators align with objectively reported indicators?	-Reported descriptive indicators are weakly associated with commonly used numerical indicators.
Maher and Deller (2013)	Survey and Archival	Do subjectively reported financial condition indicators align with government-wide measures?	-An overall weak relationship is found between reported descriptive indicators and government-wide measures. -Financial position and liquidity measures align with the subjective indicators.
Kloha et al. (2005b)	Survey	Do states monitor local governments' financial conditions?	-Only 15 states use indicators for assessing local financial conditions. -Respondents indicated that they were interested in a more extensive monitoring role.
Spreen and Cheek (2016)	Archival	Does state monitoring impact local government financial conditions?	-States monitoring has only a slight influence on local government financial condition compared to states without monitoring.
Crosby and Robbins (2013)	Archival	What changes could improve state monitoring of local governments' financial conditions?	-Including governmental and business-type activities into a composite financial indicator can better detect fiscal strain. -Almost four times as many local governments are under fiscal strain according to the tested composite indicator.
Gerrish and Spreen (2017)	Archival	How did state financial benchmarking influence local financial condition ratios?	-There was little change to mean financial condition ratios, but standard deviations narrowed after the state's benchmarking tool was implemented. -Some top performing governments decreased financial condition after state benchmarking.

TABLE 1.10

Summary of Research on Fiscal Health Associations within Governmental Financial Condition (Post-GASB 34)

(Shown in order of presentation)

Citation	Research Design	Research Question(s)	Key Result(s)
Gorina et al. (2018b)	Archival	What fiscal ratios and factors indicate fiscal distress?	-Municipalities with higher unreserved general fund balances and unrestricted net asset are less likely to face bankruptcy or default. -Long-term liabilities and unemployment rates positively predict bankruptcies and defaults.
Trussel and Patrick (2009)	Archival	What factors predict municipality fiscal distress?	-Debt and intergovernmental revenues are positively associated with distress risk. -Administrative costs and revenue growth are negatively associated with distress risk.
Beck and Stone (2017)	Review and Archival	What contributing factors influence the failure of municipalities?	-Fiscal stress is not the only cause of municipality failure. -Lack of economic adaptation and not fulfilling opportunity expectations also contribute to failure.
Modlin and Stewart (2014)	Survey and Archival	What are the determinants of a county receiving a state notice of fiscal distress?	-Salaries and wages, debt service expenditures, and water policies increased the likelihood of receiving a state fiscal distress notice. -Higher unreserved general fund balances decreased the notice probability.
Trussel and Patrick (2013)	Archival	Can fiscal distress factors predict the presence of service reductions?	-Intergovernmental revenues and debt positively predict service reductions. -Capital spending and bond proceeds negatively predict service reductions.
Gorina et al. (2018a)	Archival	What financial officer decisions are associated with fiscal distress?	-The probability of fiscal distress increases when fiscal reserve ratios are lowered and debt ratios are raised.

Singla et al. (2018)	Survey and Archival	Does local government financial condition influence manager entrepreneurial orientation?	-Short-term resource changes are negatively related to entrepreneurial orientation. -Long-term resource changes are not significantly related to entrepreneurial orientation.
Jimenez (2017b)	Survey and Archival	Are cities' fiscal health shaped by tax and expenditure limitations?	-Tax and expenditure limitation strictness is negatively associated with unrestricted net position and change in total net position.
Jimenez (2017a)	Survey and Archival	Does bureaucracy impact cities' fiscal health?	-Greater bureaucracy reduces budgetary solvency. -Centralization and formalization are significant bureaucratic factors.
Singla et al. (2014)	Archival	Did bankrupt cities show greater fiscal distress compared to continuing cities?	-Bankrupt cities had fiscal strain above the sample median, but were not significantly different from several cities that avoided bankruptcy.
Fischer et al. (2015)	Archival	Can Z-scores predict state and local government fiscal distress?	-Few government entities are classified as distressed according to Z-scores.
Stone et al. (2015)	Case Study	How effective are financial condition indicators for the Detroit case?	-Most indicators showed no concern or only a gradual decline. -Only leverage, taxes, revenues, and expenditures showed a steep decline.
Clark and Gorina (2017)	Case Study	How well does emergency fiscal management address municipal fiscal distress?	-Emergency fiscal management can improve financial conditions, but usually only in the short-term.

CHAPTER 2

Classification Rearrangement and Determinants of GASB 54 Governmental Fund Balances

ABSTRACT: Imprecise classification definitions and fund purpose variability created an environment where U.S. state and local governments inconsistently applied amounts to their fund balances. The implementation of GASB 54 represents an attempt to improve fund balance classification to add usefulness for reporting users. However, much of the literature retains the use of previous fund balance categories. My study both investigates the rearrangement of prior fund balance amounts into the updated GASB 54 fund balance classifications and the determinants associated with these GASB 54 balances. My findings note that prior "reserved" fund balances shifted predictably into restrictive GASB 54 categories, while prior "unreserved" categories shifted into varying GASB 54 categories. The determinants analysis shows fund balance flexibility to be positively related to general service charges and income per capita, while negatively related to prior deficits, population, and unemployment. Besides this study furthering the knowledge about GASB 54 fund balances and the factors that impact them, findings suggest a substantial benefit of GASB 54-implemented fund balance definitions in avoiding potential fund balance unpredictability and potential manipulation.

INTRODUCTION

Inconsistency in financial reporting can hinder stakeholders' ability to compare information, and can subsequently lead to flawed decision-making. The Governmental Accounting Standards Board (GASB) saw this as rationale to improve state and local government's fund balance accounting (Brooks and Mead 2010). The publication of GASB Statement No. 54 (GASB 54) in 2009 sought to improve fund balance reporting through more clearly defined classifications (GASB 2009). However, few studies utilize GASB 54's updated fund balance categories as variables (Chase and Roybark 2013; Kelly 2013; Stewart, Hamman, and Chapman 2018). My study furthers knowledge on GASB 54 reporting. Specifically, I conduct a thorough analysis of how total governmental fund balances were allocated after GASB 54's implementation and what factors significantly impact the updated fund balance amounts.

Fund financial statements reveal information about the primary government's finances. Before GASB 54, governments' fund balances were measured in either *reserved*, *unreserved-designated*, or *unreserved-undesignated* fund balance categories (NCGA 1979; GASB 1999). Concerns developed that vague classification definitions and differing categorizations depending on fund specificity were leading to fund balance inconsistencies (GASB 2006; Kelly 2013). Addressing these concerns, GASB 54 implemented more clearly defined fund balance categories (in order of resource constraint restrictiveness): (1) *nonspendable*; (2) *restricted*; (3) *committed*; (4) *assigned*; and (5) *unassigned* (GASB 2009; Brooks and Mead 2010; Kelly 2013). In other words, *committed*, *assigned*, and *unassigned* fund balances have more flexible usage than *nonspendable* or *restricted* fund balances.

Even though prior research both compares fund balance usage pre- and post-GASB 54 implementation (Arapis and Grady 2015) and attempts to detect the shift of amounts from previous fund balances to GASB 54's classifications (Chase and Roybark 2013; Kelly 2013), these studies aggregate findings that make unclear how prior fund balances incrementally effect GASB 54 balances. In order to investigate factors that contribute (or hinder) the level of fund balances, several papers study determinants of fund balances under the pre-GASB 54 classifications (e.g., Hendrick 2006; Wang and Hou 2012; Grizzle, Stewart, and Phillips 2015; Arapis and Reitano 2017). Some significant financial factors reported are funding types (e.g., Stewart 2009; Guo and Wang 2017) and deficits (e.g., Hendrick 2006). Other factors can include government characteristics such as unemployment (e.g., Stewart, Phillips, and Modlin 2013; Jimenez 2017) or population (e.g., Gianakis and Snow 2007).

Expanding on the findings of Chase and Roybark (2013) and Kelly (2013), I investigate how prior fund balances transferred to GASB 54-mandated classifications at the total governmental funds level. Afterward, I model the determinants of total governmental fund balances (based on either flexible fund balance ratios to total balances or individual fund balances per capita).

I have several predictions for economic-based determinants. As higher percentages of tax revenues and service fees provide governments more resources for accumulating budgetary slack (e.g., Wang and Hou 2012), I hypothesize a positive relationship with fund balance flexibility. Conversely, higher percentages of debt proceeds and intergovernmental revenues, and the presence of a prior year deficit suggest a lack of sustainability and fewer available funds to save for governments (e.g., Stewart 2009; Arapis and Reitano 2017; Maher, Stallmann, Deller, and

Park 2017). Thereby, I hypothesize a negative relationship between these three factors and fund balance flexibility.

I also make hypotheses concerning demographic determinants. Higher populations and unemployment entail excess service expenditures over available revenues for governments (e.g., Stewart, Hamman, and Pink-Harper 2017). I, therefore, expect a negative association between population (or unemployment rate) and fund balance flexibility. Greater incomes per capita suggest more tax revenue sources (e.g., Stewart et al. 2013), so I predict a positive relationship between fund balance flexibility and income per capita.

To discover how total governmental fund balances shifted between pre- and post-GASB 54 classifications, I obtain a usable sample of 228 municipalities with CAFRs reporting previous fund balance categories in fiscal year-end 2010 and updated fund balance categories in fiscal year-end 2011. To test the determinants of GASB 54 governmental fund balances, I have a final sample of 792 municipality-year observations from 276 distinct municipalities with CAFRs between fiscal year-ends of 2011 and 2015.

My classification rearrangement analysis shows that prior *reserved* governmental fund balances negatively relate to GASB 54 *unrestricted* ratio and positively relate to *nonspendable* and *restricted* GASB 54 fund balances per capita. Prior *unreserved-designated* fund balances appear to be positively related to *unrestricted* ratios but negatively related to *unassigned* ratios of fund balances, aligning with prior research (e.g., Chase and Roybark 2013). However, prior *unreserved-designated* (and to a lesser extent *unreserved-undesignated*) balances also display positive associations to many GASB 54 fund balance types (including more restrictive categories). This indicates a benefit to GASB 54 definitions in minimizing allocation inconsistencies and avoiding varying categorization if a specifically purposed amount were

accounted for in a fund with similar purpose (i.e., potentially manipulating flexible fund balance information). "Non-specific" prior *unreserved* fund balances appear to have shifted to either *committed* or *unassigned* balances.

For my hypothesized economic determinants, my estimated model shows flexible governmental fund balances (and/or ratios) as having a positive relationship with municipality general service fees and a negative relationship with prior year deficits. Results are mixed for the association between fund balance flexibility and both property taxes and intergovernmental revenues. I find no evidence of new long-term debt proceeds affecting fund balance flexibility. Within my demographic determinants, municipality population varies indirectly with flexible fund balances and ratios. My results also suggest that municipality income per capita positively relates to *unrestricted* ratio, while unemployment negatively relates to *unrestricted* ratio.

My paper contributes to the prior literature in several ways. The majority of fund balance determinants studies use levels of *unreserved* (or *unassigned*) fund balances (e.g., Hendrick 2006; Guo and Wang 2017). As such, these papers miss the potential information content provided by more restrictive (i.e., less flexible) governmental fund balance categories. This paper investigates determinants based on various measures of fund balance spending flexibility using a comprehensive set of GASB 54 fund balance categories and fund balance ratios (Gore 2015). Prior research also uses the general fund as a measure of a state or local government's financial condition or budget stabilization (e.g., Gianakis and Snow 2007; Wang and Hou 2012). This study contributes to prior research by investigating balances at the total governmental funds level. Furthermore, my paper offers a breakdown of how the total governmental fund balances were incrementally allocated from before and after GASB 54's implementation using the updated fund balance categories (Chase and Roybark 2013; Kelly 2013). My classification

rearrangement findings stress the importance of GASB 54's implementation on improving fund balance information content, encouraging better application consistency, and reducing the likelihood of flexible fund balance manipulation.

The rest of this chapter proceeds as follows. I provide a literature review that illustrates the development of fund balances and examines research investigating both the rearrangement and the determinants of GASB 54 fund balance amounts. Following that, I develop my hypotheses. I then describe my sample and research methodology. Afterward, I report my analysis and findings, and then give my conclusions.

LITERATURE REVIEW

The Development of Fund Balance Standards

The reporting of fund financial statements allows governments to report detailed primary government-level finances and respective information to statement users (GASB 1999). Governments should report fund financial statements when they have activities related to current government resources (i.e., governmental funds), business-type charges (i.e., proprietary funds), and assets held by a trust or agency (i.e., fiduciary funds). Per GASB Statement No. 34 (GASB 34), the *Balance Sheet* is one of the required statements for governmental funds (optional for proprietary funds). The elements of the fund balance sheet for governments are similar to financial accounting except that fund balances replace stockholder's equity (see Figure 2.1). Thus, the total fund balance for governments is the residual amounts after subtracting liabilities from assets (GASB 1999). Even though the total fund balance is clearly defined, past developments have shaped the classifications within fund balances.

[FIGURE 2.1 ABOUT HERE]

The National Council on Governmental Accounting (NCGA) provided the preliminary guidance on how fund balances should be classified. NCGA Statement No. 1 promoted that governmental fund balances be classified as either *reserved* or *unreserved* (NCGA 1979). The generally understood definitions of *reserved* fund balances were amounts restricted for use in specific purposes, while *unreserved* fund balances were amounts freely available for appropriation or expenditures (Tyer 1993). Some uncertainty existed from these definitions, so confusion often occurred over specific application of amounts (Kelly 2013). Beyond *reserved* and *unreserved*, a government may "*designate*" some *unreserved* fund balance amounts to signify an intended usage for a certain purpose (though this intent is non-legally binding) (Tyer 1993). Kelly (2013) suggests that governments' option to designate *unreserved* fund balance was a significant issue for the GASB. "The authority to create a designation was unclear and the likelihood that the funds would be used for the designated purpose was also unknown" (Kelly 2013).

Along with several required fund financial statements, GASB 34 requires state and local governments to provide a *Balance Sheet* on their governmental funds as part of their Comprehensive Annual Financial Report (CAFR) (GASB 1999). This governmental fund balance sheet "should report information about the current financial resources (assets, liabilities, and fund balances) of each major governmental fund and for nonmajor governmental funds in the aggregate" (GASB 1999). Despite a new overall state and local government reporting structure developed by GASB 34, the classifications of fund balances remained the three NCGA

fund balance segregations: (1) *reserved*, (2) *unreserved-designated*, or (3) *unreserved-undesignated* (Kravchuk and Voorhees 2001).[3]

These older fund balance classifications were later deemed problematic due to their vague definitions that led to "considerable variation in how governments report fund balances and divergence from the intent of the standards" (Brooks and Mead 2010). Besides vague definitions, amounts for the same purpose could differ categorization based on whether accounted for in specific or broad fund types (GASB 2006). For instance, a federal grant restricted for highway repairs would be considered *reserved* amounts if the funds were accounted for in a "general fund" or broad "capital projects fund." If this grant were accounted for in a "highway repairs fund," then the amounts would be considered *unreserved* as the grant would match the specific fund's purpose. This example demonstrates a danger in assessing a municipality's financial condition by the amount of *unreserved* funds available. As such, GASB had motivation to better define fund balance categories and enhance fund information for financial statement users.[4]

In response to the confusion and reporting issues resulting from prior fund balance classification, GASB Statement No. 54 (GASB 54) establishes new fund balance classifications to be used in governments' fund balance reporting (GASB 2009). State and local governments were required to implement the provisions of GASB 54 for fiscal years beginning after June 15, 2010. A primary goal of GASB 54 is to improve the usefulness and comparability of fund

[3] Gauthier (2009a) suggests that *reserved* fund balances include resources not-spendable-in-form (e.g., inventory), resources that cannot yet be spent (e.g., time restricted funds), or externally limited resources (e.g., federal grants for economic development). *Unreserved-designated* balances include governing body limited resources (e.g., budgeted construction spending by a municipality's legislature) or resources tentatively planned by management (e.g., intended parks and recreation funding). *Unreserved-undesignated* balances contain resource without any external or internal limitation (e.g., excess local sales tax revenues).

[4] At the end of 2003, GASB began initial research that developed into a project to examine if existing fund balance information addressed users' needs and if changes would improve fund balance information usefulness (GASB 2009). This project eventually led to the implementation of GASB Statement No. 54 in February 2009.

balance information through more intuitive and clear classifications of governmental fund balance types (GASB 2009; Brooks and Mead 2010). Moreover, Chase and Roybark (2013) believe that GASB 54 "should reduce the uncertainty about fund classifications and provide users the necessary information to understand which constraints are imposed upon the use of resources, thereby improving information utility to users." These new fund balance classification types are developed primarily based on a hierarchy of a resource's level of constraint restrictiveness (GASB 2009). Thus, more restrictive fund balances will entail less flexibility in spending.

The five fund balance categories issued by GASB 54 are (in reverse order of spending flexibility): (1) *nonspendable*; (2) *restricted*; (3) *committed*; (4) *assigned*; and (5) *unassigned* fund balances (GASB 2009). GASB 54 provides formal definitions for each fund balance type. *Nonspendable* fund balances include "amounts that cannot be spent because they are either (a) not in spendable form or (b) legally or contractually required to be maintained intact." *Restricted* fund balances include "amounts that are restricted to specific purposes" when the resource constraints are imposed by (a) external creditors, grantors, contributors, or other governments' laws or regulations or (b) imposed by the government's constitutional provisions or applicable legislation. *Committed* fund balances include "amounts that can only be used for specific purposes pursuant to constraints imposed by formal action of the government's highest level of decision-making authority." *Assigned* fund balances include (a) amounts not *nonspendable*, *restricted*, nor *committed* outside of the general fund, or (b) general fund amounts that are "intended to be used for a specific purpose."[5] *Unassigned* includes amounts not *nonspendable*,

[5] The "general fund" represents financial resource amounts not reported in another fund (GASB 2009). Thus, the general fund may be used to accumulate and report excess revenues over expenditures (i.e., positive fund equity or budgetary slack). Other governmental funds include: special revenue funds, debt service funds, capital projects funds, and permanent funds.

restricted, *committed*, nor *assigned* within the general fund. These fund balances represent amounts that are freely usable for any purpose.[6] Figure 2.2 displays an example of a governmental fund balance pre- and post-GASB 54 (City of Harrisonburg 2010; 2011).

[FIGURE 2.2 ABOUT HERE]

These fund balance category definitions demonstrate the intended hierarchy of resource flexibility. GASB 54 offers additional guidance on how to separate fund balance amounts. After separating *"nonspendable"* from *"spendable"* fund balances, GASB 54 suggests a distinction be made between *"restricted"* and *"unrestricted" spendable* fund balances (GASB 2009). Thereby, GASB 54 considers *"unrestricted"* amounts to be either *committed*, *assigned*, or *unassigned* balances (depending on the level of resource constraint). Gore (2015) finds that municipalities use fund balance discretion to manipulate or hide financial slack. Specifically, these governments have discretion within the older *"unreserved"* fund types (Guo and Wang 2017), suggesting that legislatures and finance departments are able to allocate funds as needed to *unassigned*, *assigned*, and some *committed* fund balance types prior to GASB 54.

Expectations of uninterrupted services "compel local governments to find methods that guarantee continued operations, preferably without changing tax and expenditure patterns" (Arapis and Reitano 2017). Minimizing the impact of contingencies is a major rationale for maintaining sufficient resources within fund balances (Gauthier 2009b). Chase and Roybark (2010) suggest that state and local governments adopting GASB 54 considered creating or updating policies regarding governmental fund balances. These policy considerations included:

[6] GASB 54 provides examples and illustrations of each fund balance type (GASB 2009). For example, *Nonspendable* includes inventory, prepaid amounts, and permanent funds. *Restricted* includes federal/state highway grants, capital project contracts, and law enforcement funding mandated by constitutional policies. *Committed* includes legislatively authorized education funding and formalized economic stabilization funds. *Assigned* includes intended parks and recreation spending or finance committee approved renovation funding. *Unassigned* includes positive general fund amounts or negative residual amounts (i.e., excess liabilities over assets and the combined *nonspendable*, *restricted*, *committed*, and *assigned* fund balances).

(1) *committed* and *assigned* funds; (2) stabilization funds; (3) the order of spending resources; (4) the desired level of fund balances; and (5) reviewing fund classifications. In recognizing specific influential factors, governments can plan a system of funds designed to offer stability in their operations. For some governments, accumulating excess revenues over expenditures and saving these amounts into the *unassigned* general fund allows for flexible usage if unexpected revenue or expenditure fluctuations occur. The *unassigned* balance is considered the "most readily available resource against unforeseen events and economic uncertainty" (Arapis and Reitano 2017).

Instead of informally accumulating budgetary slack within an *unrestricted* fund, the GFOA "recommends that governments establish a formal policy on the level of *unrestricted* fund balance that should be maintained" (GFOA 2015). As well, governments should develop formal procedures on how to increase or decrease the *unrestricted* fund balance level over a specific period of time.[7] Ignoring other individual government factors, the GFOA's minimum recommendation for general-purpose governments is to "maintain *unrestricted* budgetary fund balance in their general fund of no less than two months of regular general fund operating revenues or regular general fund operating expenditures" (GFOA 2015). This two month minimum recommendation for covering government's operating revenues or expenditures replaces the original GFOA guidance of a "5 to 15 percent minimum" of general fund *unrestricted* balance (Gauthier 2009b).

Fund Balance Research

[7] Lofton's (2018) survey suggests only some local governments use policies that maintain general fund balance levels. In New York State, county governments were more likely to have a policy than a city, town, or village government.

Pre- and Post-GASB 54 Comparisons

Several studies investigate how fund balances have progressed from pre- to post-GASB 54 implementation. Specifically, these papers compare either the usage of fund balance classifications or the allocation of amounts from the final year under the past fund balance guidance to the first year under GASB 54 reporting. Arapis and Grady (2015) comment on how GASB standards have evolved governmental financial reporting, emphasizing increased accountability, transparency, uniformity, and simplicity. They find that in the pre-GASB 54 period almost all states utilized *reserved* and *unreserved-undesignated* general fund balance types, but many did not utilize the *unreserved-designated* general fund balance type. Post-GASB 54, between 80 and 100 percent of states are utilizing *nonspendable*, *committed*, and *unassigned* general fund balances, while between 60 and 80 percent of states are utilizing *restricted* and *assigned* general fund balances. This suggests GASB 54 has increased accountability and clarity in reporting fund balances based on spending flexibility.

Chase and Roybark (2013) describe the history and content of GASB 54's implementation and compare previous fund balance classifications to the new GASB 54 fund balances using 51 Virginia city and county governments. Their analysis of the general fund indicates a slight increase from 26.7 percent in average *unrestricted* fund balance as a percent of general fund revenue in 2011 as compared to 25.2 percent in average *unreserved* fund balance (both *designated* and *undesignated*) as a percent of general fund revenue in 2010. They find a similar increase when comparing 2011 *unassigned* balances to 2010 *unreserved-undesignated* balances, suggesting that governments had approximately fit both *committed* and *assigned* fund balances into the old *unreserved-designated* fund balance.

Kelly (2013) describes the features of GASB 54 and examines potential budget stabilization usage and fund balance comparisons pre- and post-implementation. The majority of sampled observations did comply with GASB 54 after the recommended deadline. The analysis of a sample of medium-sized cities (between 100,000 and 250,000 in population) reveals that 68 percent of fiscal year 2010 *unreserved* fund balances were allocated to fiscal year 2011 *unassigned* fund balances. Also, all of the fiscal year 2010 *reserved* fund balances and remaining 32 percent of *unreserved* fund balances (i.e., combined 132 percent) were distributed 21 percent to *nonspendable*, 6 percent to *restricted*, 43 percent to *committed*, and 62 percent to *assigned* fund balances in fiscal year 2011. Additionally, supplemental disclosures were found to more easily identify fund balances used for stabilization purposes.

Fund Balance Determinants

This subsection reviews literature that finds associations between fund balances and governmental characteristics or factors. Many studies utilize pre-GASB 54 fund balance categories in their samples.[8] In their fiscal savings article, Arapis and Reitano (2017) show that the local government literature has highlighted many determinants of *unreserved* fund balance types. Property taxes, local sales taxes, enterprise transfers, income per capita, and council-manager form is suggested to be positively associated with *unreserved* fund balances. Intergovernmental aid, debt per capita, general government expenditures, capital spending, population, ethnic diversity, and teen or senior population is suggested to be negatively associated with *unreserved* balances.

[8] As several studies have sample years both before and after GASB 54 implementation, these researchers often decide to select pre-GASB 54 balances (e.g., *"unreserved"*) for comparability.

Two papers study the determinants of county government general fund balances within three different states. Wang and Hou (2012) examine the factors that contribute to North Carolina county governments' general fund balances. They find positive associations between general fund balance as a percent of total revenues and both property and sales taxes. There are also negative associations between the general fund balance ratio and both capital outlay expenditures and population. Guo and Wang (2017) investigate the factors influencing *unreserved* general fund balance sizes in Florida county governments. *Unreserved* fund balance scaled by general fund expenditures is found to be positively associated with property tax rate and population but negatively associated with intergovernmental transfers scaled by general fund revenue.

Similarly, several studies seek to determine the characteristics and financial conditions that lead to higher *unreserved* fund accumulations. Hendrick (2006) studies the factors associated with accumulating slack in *unreserved* fund balances with a sample of suburban Chicago municipalities. The results show that the *unreserved* fund balance of governmental funds is positively related to operating surpluses and capital spending and negatively related to deficits, debt per capita, and total expenditures (i.e., municipality size). Su (2016) examines the factors that influence municipalities' financial slack accumulation in the general fund. Greater tax revenue volatility, debt service expenditures, and capital expenditures are found to be positively associated with greater amounts of accumulated *unreserved* general fund balance, while population is negatively associated with accumulated *unreserved* general fund amounts. Flick (2018) shows that county governments with reserve policies, higher prior expenditures, and greater services provided had greater amounts of *spendable* fund balances.

As an extension to other determinants studies, Stewart (2009) suggests that fund balance determinants may depend on the overall economic environment. Thereby, Stewart (2009) studies factors related to Mississippi counties' *unreserved* fund balances during periods of economic upturns and downturns. During upturns, changes in property tax revenue, other revenues, and per capita income were related to *unreserved* fund increases, while changes in population and debt per capita were related to *unreserved* fund decreases. During downturns, changes in nonwhite population and population in general were related to *unreserved* fund increases, while county governments with separate political and administrative responsibilities (i.e., a council-manager form) and those with changes in debt per capita were related to *unreserved* fund decreases.

As seen in the aforementioned research, *unreserved* (or the more recent *unassigned*) fund balances are often used to flexibly accumulate excess revenues beyond expenditures to reduce the impact of unforeseen circumstances (Gauthier 2009b; Chase and Roybark 2010). However, the GFOA's recommendation suggested a formalized policy (such as a budget stabilization fund or required general fund balance level) to hold governments accountable for maintaining their "safety net." Arapis and Reitano (2018) use Florida cities to examine the factors associated with financial savings behavior relative to GFOA recommendations. Most sample cities are shown to have maintained their *unassigned* general fund balance levels (i.e., not falling below the GFOA's recommendation) both inside and outside of the Great Recession. The main results indicate that higher property taxes, population, and debt service expenditures increased the likelihood of falling below the GFOA's recommendation; while net enterprise transfers, general government expenditures, and wealth decreased the likelihood of falling below the recommendation.

Multiple papers look at governmental factors associated with "rainy day fund" and similar policies. Grizzle et al. (2015) investigate the factors associated with states' adoption of a

formal rainy day fund (such as policies on *unreserved* fund balance levels). They find that states were more likely to adopt a rainy day fund when a neighboring state had a rainy day fund. Also, revenue volatility was found to increase the likelihood of implementing a rainy day fund policy. Stewart et al. (2018) determine factors that are associated with Illinois county *unreserved* fund balance policies. Only 18 percent of Illinois counties are found to have *unreserved* or *unassigned* reserve fund policies. Also, counties with larger median incomes and higher Democratic voting in the 2016 presidential race were associated with a higher likelihood to adopt an *unreserved*/*unassigned* fund balance policy.

In comparing two budgetary accumulation strategies (budget stabilization funds and unreserved general fund balance), Gianakis and Snow (2007) examine how Massachusetts' local governments build and use their accumulated budgetary slack. They find a relatively weak association between stabilization funds and free cash (i.e., *unreserved* general fund balances), suggesting that these two stabilization tools are utilized for different purposes. They find some significant determinants of free cash being positively related to population change and general government expenditures, but negatively related to state aid.

Beyond finding factors related to budget accumulation, other government characteristics could shape the level of fund balances. Stewart (2011) expands upon Stewart (2009) in examining if the determinants of *unreserved* fund balance changes depend upon county government type. Results are generally similar to Stewart (2009) during economic upturns, except that *unreserved* balances decrease (increase) when both intergovernmental revenues increase and when the county government has separate (non-separate) political and administrative responsibilities. Stewart et al. (2013) investigate if revenue and expenditure volatility impact changes in Illinois, North Carolina, and Mississippi counties' *unreserved* fund

balances scaled by general fund expenditures. Revenue volatility measures of property tax revenue and other revenue increases led to higher *unreserved* balances, while intergovernmental revenue increases led to lower *unreserved* balances. The only overall significant expenditure volatility measure was rising unemployment leading to lower *unreserved* balances.

Jimenez (2017) studies if measures of bureaucracy impact municipality financial health. The analysis indicates that municipalities with greater centralization of decisions and formalized administrative policies have lower ratios of *unrestricted* net assets to expenses. These relationships are insignificant for ratios of *unreserved* general fund balance to expenditures. Population, unemployment growth, and debt per capita are found to be negatively related to *unreserved* general fund balance ratios.

Governmental characteristics could also impact the classification and specific fund locations for fund balances. Gore (2015) investigates if unionized municipalities are more likely to utilize fund balances to hide resources. The results demonstrate that unionized municipalities report lower (higher) percentages of fund balances inside (outside) of the general fund than non-unionized municipalities. Additionally, unionized municipalities tend to hold more general fund resources in *reserved* and *unreserved-designated* balances than non-unionized municipalities. These findings suggest discretionary resources may be hidden in less transparent funds.

Beyond local government-level characteristics, state funding and policies could also influence local fund balances. Ványolós (2005) studies how New York State school district budgeting is influenced by state aid uncertainty. Compared to changes in either revenues or expenditures, changes to fund balances are found to better stabilize school district finances as state aid differences occur. Greater state aid uncertainty appears to promote budgeting strategies

such as accumulating larger *unreserved-unappropriated* fund balances.[9] Maher et al. (2017) investigate how states' tax and expenditure limitations influence state reserves (i.e., budget stabilization funds and/or *unreserved* fund balance). Only a weak negative relationship is found between tax and expenditure limitations and either percentage of *unreserved* fund balance or percentage of total reserves, both scaled by expenditures. Revenue volatility is found to positively predict *unreserved* balance percentage, while percentage of intergovernmental revenue and Democratic Party control negatively predict *unreserved* balance percentage.

HYPOTHESES

The first goal of this paper is to assess how GASB 54 has shaped governmental fund amounts. My model assesses how each previous fund balance category flows into the updated fund balance categories (and percentages of flexible fund balance categories). Chase and Roybark (2013) examine the fund balance shift in Virginia local governments' general funds and find evidence that *unreserved-designated* balances shifted predominantly into GASB 54's *committed* and *assigned* balances, while *unreserved-undesignated* balances flowed into GASB 54's *unassigned* balances. *Reserved* balances tended to be made up of *nonspendable*, *restricted*, and some *committed* fund balances. Similarly, Kelly (2013) uses a sample of medium-sized cities to find that the majority of *unreserved* fund balances end up in *unassigned* fund balances. However, *reserved* and the remaining *unreserved* fund balances are found to mainly fill either

[9] Also at the school district level, Arapis, Reitano, and Bruck (2017) examine determinants of *unassigned* general fund balances. Both higher property taxes and state aid is related to higher future *unassigned* balance per student. Higher expenditures such as salaries and benefits, long-term debt, and transportation can lead to lower future per pupil *unassigned* balances.

committed or *assigned* balances. This suggests a significant amount of the previous *reserved* balances included amounts that were more flexible than *nonspendable* or *restricted* balances.

As demonstrated by Chase and Roybark (2013) and Kelly (2013), there is some question as to where prior fund balances have been allocated. One reason for slightly different findings could be that Chase and Roybark (2013) analyzed the general fund alone, where Kelly (2013) utilized the total governmental funds. To ensure that all governmental funds are accounted for, I will analyze the fund balance amount shift using the total governmental fund balances that include all major (e.g., general fund and capital projects funds) and other governmental funds.

Research Question 1: How do governmental fund balance amounts change between pre- and post-GASB 54 classifications?

After measuring the transfer of governmental fund balances, I seek to find determinants of both separate fund balance categories and ratios of fund balance flexibility. I separate the hypothesized determinants of governmental fund balances into either financial or demographic factors. The financial factors look into either different revenue compositions (Zhang and Rich 2016) or prior year deficits that could incrementally explain fund balance flexibility. The demographic factors investigate population, income, and unemployment characteristics.

Property taxes are found to be associated with greater *unreserved* fund balances (Arapis and Reitano 2017) and larger general fund ratios (Wang and Hou 2012). Also, larger property tax rates are found to be positively related to *unreserved* fund balances (Guo and Wang 2017). These suggest governments with greater percentages of tax revenues accumulate budgetary slack in flexible fund balances. Furthermore, Stewart (2009) finds evidence that property tax increases

help build budgetary slack within *unreserved* fund balances during economic upturns. Thereby, governments are more likely to accumulate excess revenues during prosperous times in case of future uncertainties. Based on this evidence, I propose the following hypothesis:

Hypothesis 1: Municipalities with greater property tax revenues have more flexible governmental fund balances.

Governments can also accumulate revenues from service fees (e.g., water and transportation usage) (Zhang and Rich 2016). Charges and fees can be major supplemental revenue sources to taxes that impact budgetary slack (Su 2016). Increases in other revenue sources that include service fees are found to increase *unreserved* fund balances (Stewart 2009). Stewart et al. (2013) also find that the volatility measure of other revenue sources (e.g., user fees) is positively associated with *unreserved* funding levels. Additionally, counties with a greater number of services are related to higher *spendable* fund balances (Flick 2018). Much like property taxes, these findings suggest municipalities can build flexible funding reserves from user fees and charges. Accordingly, I propose the related hypothesis:

Hypothesis 2: Municipalities with greater service fee revenues have more flexible governmental fund balances.

Unlike property taxes and service fee revenues, debt proceeds are a funding source that has an internally costly usage (e.g., interest costs). Governments may utilize debt to help cover large investments or budgetary shortfalls. This entails that governments will be less likely to

accumulate reserve funding through debt issuances. Many papers support this by discovering that higher (lower) debt per capita is associated with lower (higher) *unreserved* or general fund balances (Hendrick 2006; Gore 2015; Arapis and Reitano 2017; Jimenez 2017). Debt service expenditures are also shown to increase the chances of falling below the GFOA's recommended *unrestricted* balances (Arapis and Reitano 2018). Furthermore, Stewart (2009) determines that the negative relationship between debt changes and *unreserved* fund balance changes are robust to both periods of economic upturns and downturns. These findings demonstrate that governments with higher debt have significant obligations that limit their ability to save amounts into flexible fund balances. Thereby, I suggest the following hypothesis:

Hypothesis 3: Municipalities with greater debt proceeds have less flexible governmental fund balances.

Intergovernmental revenues are another revenue source attributed to lower *unreserved* fund balances (Stewart et al. 2013; Arapis and Reitano 2017; Guo and Wang 2017; Maher et al. 2017). Local governments with poorer finances may rely on higher government funding (e.g., federal or state aid) for sustainability (Gianakis and Snow 2007). This suggests that governments with greater intergovernmental revenues are more resource dependent on external funding sources and will have lower excess revenues to accumulate in flexible fund balances. As well, intergovernmental revenues may include restrictive provisions that limit how the funds are spent. Following this logic, I suggest the hypothesis below:

Hypothesis 4: Municipalities with greater intergovernmental revenues have less flexible governmental fund balances.

Research also points to governments reporting deficits as leading to lower *unreserved* or general fund balances (Hendrick 2006; Gore 2015). A deficit entails that a government incurred more expenditures than the revenues collected over the period. A past period deficit would then be offset against any positive *unassigned* fund balance in the current period.[10] Intuitively, governments running a deficit would be less likely to have future excess funding remaining in flexible fund balances. Accordingly, I suggest the following hypothesis:

Hypothesis 5: Municipalities with prior deficits have less flexible governmental fund balances.

Two studies find a positive relationship between a government's population (or changes in population) and *unreserved* general fund balances (Gianakis and Snow 2007; Guo and Wang 2017), suggesting that governments have more citizens to tax when population is larger. A greater number of papers, however, determined that increased populations are associated with decreased *unreserved* or general fund balances (Stewart 2009; Wang and Hou 2012; Gore 2015; Su 2016; Arapis and Reitano 2017; Jimenez 2017). Arapis and Reitano (2018) also highlight population as a factor that reduces the probability of meeting GFOA fund balance recommendations. This relationship could show that governments with larger populations have greater obligations to provide services. These incremental expenditures may hinder

[10] Current period deficits and current fund period balances are likely contemporaneous factors. To avoid violating a strict exogeneity assumption, lagged deficits are used to test the effect on current fund balances.

governments' efforts to accumulate fund balances in flexible categories. Thereby, I propose the hypothesis below:

Hypothesis 6: Municipalities with greater populations have less flexible governmental fund balances.

Governments with wealthier citizens suggest a benefit of greater tax revenues per person. In line with this, Arapis and Reitano (2017; 2018) find evidence that local governments with higher income per capita have higher *unreserved* fund balances and are more likely to meet GFOA recommended fund balance levels, respectively. Stewart et al. (2018) also finds a positive association between per capita income and *unreserved* fund balance policies. During economic upturns, governments with higher median or positive changes in per capita income are also found to have higher *unreserved* or total governmental fund balances (Stewart 2009; Stewart et al. 2017). This higher per capita income suggests that governments are more likely to accumulate excess revenues from constituents with higher tax burdens beyond the service expenditures that governments are required to provide. This leads to the following hypothesis:

Hypothesis 7: Municipalities with greater incomes per capita have more flexible governmental fund balances.

On the opposite side of citizen wealth, unemployment represents a reduction of income for governments to benefit from. Research finds a negative relationship between unemployment rates and *unreserved* or *unrestricted* fund balances (Stewart et al. 2013; Jimenez 2017; Stewart et

al. 2017). Unemployment entails lower revenues from citizens per capita due to the average citizen having less disposable spending or taxable income. Thereby, governments with higher unemployment should have lower amounts in their flexible fund balances. Furthermore, governments may still be required to provide a standard level of services despite this revenue reduction. Following this rationale, I hypothesize that:

Hypothesis 8: Municipalities with greater unemployment have less flexible governmental fund balances.

METHOD

Sample

As I examine how prior fund balances have rearranged into the updated GASB 54 fund balances (i.e., RQ1), I gather CAFRs from a sample of 2010 fiscal year-end municipalities using pre-GASB 54 fund balances that also utilize GASB 54 fund balances in their 2011 fiscal year-end. With GASB 54's required implementation date being fiscal years beginning June 15, 2010, the fiscal year-end 2011 represents the first year under GASB 54 guidance for most municipalities. I start with the 364 unique municipalities used in Rich, Roberts, and Zhang (2016).[11] After removing observations missing GASB 54 fund balances in 2011, adopting GASB 54 early in 2010, or missing necessary data, my final sample for fund balance reclassification analysis is 228 municipalities from 45 states (see Table 2.1, Panel A).

[11] Rich et al. (2016) limits their sample by restricting observations to municipalities that have 25,000 or more in population, responded to the International City/County Management Association's 2011 Municipal Form of Government survey (ICMA 2011), and had the necessary financial and control data (i.e., CAFR, Federal Audit Clearinghouse, and governance information).

[TABLE 2.1 ABOUT HERE]

To find the determinants of GASB 54 percentages or levels of fund balances based on spending flexibility (i.e., H1-H8), I use a panel data sample of municipalities with ending fiscal years between 2011 and 2015. Using the same 364 municipalities as my reclassification analysis (Rich et al. 2016), I obtain 1,456 potential municipality-year observations between 2012 and 2015.[12] My final municipality-year sample for my determinants model is 792 from 274 unique municipalities in 45 states once observations missing the necessary CAFR, demographic, and financial data are omitted (see Table 2.1, Panel B).

I consider the municipality-level government interesting for analyzing fund balance determinants since many municipal governments collect revenues from a variety of sources such as citizens with property taxes or state governments with intergovernmental revenues. Additionally, municipalities may have some important characteristics with population, wealth, or government type that could be increasingly noisy at the state-level.

Design

For assessing RQ1 (i.e., how municipalities allocated their prior total governmental fund balance category amounts to the updated GASB 54 balances), I estimate Equation (1) using a pooled ordinary least-squares (OLS) regression:

$$FBPcnt_{jit}(or\ FB_{kit}) = \beta_0 + \beta_1 PreFB_{li(t-1)} + controls + d_i + \varepsilon_i \quad (1)$$

[12] Since I have a lagged (t-1) deficit control variable, I drop fiscal-year 2011 fund balance observations.

Equation (1) utilizes a sample of municipalities with 2011 fiscal year-end that changed to GASB 54 fund balance categories from the pre-GASB 54 categories in 2010 fiscal year-end. Furthering the general fund balance ratios shown in Gore (2015), my dependent variable (*FBPcnt*) separately uses ratios (*j*) based on either the percentage of discretionary (*unrestricted*) fund balances to total governmental fund balances (*UnrestrictedPcnt*; i.e., combined *committed*, *assigned*, and *unassigned* balances to total balances) or the percentage of most flexible (*unassigned*) balance to total *unrestricted* balances (*UnassignedPcnt;* i.e., *unassigned* balances to combined *committed*, *assigned*, and *unassigned* balances).[13] By using the *FBPcnt* dependent variables, any significant positive parameter estimates for the independent variables would indicate that a determinant is associated with more flexible total governmental fund balance types, while any significant negative parameter estimates would infer that a determinant is associated with less flexible total governmental fund balance types.

Alternatively, I run Equation (1) with *FB* that denotes each GASB 54 total governmental fund balance category (*k*) amount per capita (i.e., *NonspendablePC*, *RestrictedPC*, *CommittedPC*, *AssignedPC*, and *UnassignedPC*) for a given municipality in the fiscal year-end 2011.[14] I also include a composite *unrestricted* governmental fund balance per capita (i.e., *UnrestrictedPC*) within (*k*). Each dependent variable category amount will be inserted into the

[13] Some municipality-years feature negative governmental *unassigned* fund balance amounts (i.e., a negative residual fund balance after allocating amounts to other fund balance classifications). In other words, this represents combined total governmental liabilities and *nonspendable*, *restricted*, *committed*, and *assigned* fund balances exceeding their total governmental assets. These observations are omitted from the analysis since including negative *unassigned* amounts in percentage variables (i.e., *UnrestrictedPcnt* and *UnassignedPcnt*) can result in illogical mathematical values (i.e., "negative" or "greater than 100-percent" percentage values).

[14] I choose to use per capita transformations of fund balances instead of logarithmic transformations due to some observations having fund balances with values below zero (e.g., negative *unassigned* balances). Scaling fund balances by per capita also helps limit the influence of extreme fund balance values of some municipalities (i.e., very large fund balances in major cities).

model separately. These fund balance amounts are found in each municipality's *Governmental Funds Balance Sheet*.

The independent variables of interest (time t-1) in Equation (1) are separately inserted *PreFB*. This represents each of the prior total governmental fund balance category (*l*) amounts in thousands of dollars per capita for a given municipality in the fiscal year-end 2010 (i.e., pre-GASB 54 balances). *ReservedPC, UnreservedDPC,* and *UnreservedUPC* represents *reserved, unreserved-designated,* and *unreserved-undesignated* total governmental fund balances. Since some municipalities report "unclear" *unreserved* fund balances in their governmental funds balance sheets (i.e., neither *designated* nor *undesignated* amounts), I also run Equation (1) with a separate prior independent variable of interest (*l*) for *unreserved-nonspecific* funds in thousands of dollars per capita (i.e., *UnreservedNPC*).[15]

Equation (1) contains five economic-based control variables. The first four control variables are gathered from U.S. Census Bureau government finance data compiled by Pierson, Hand, and Thompson (2015). *PropTaxPC* is the total property tax revenues, *ServFeesPC* is the total general service charges, *DebtIssPC* is the total new long-term debt proceeds acquired, and *IGRevPC* is the total intergovernmental revenues. Each funding source variable is in thousands of dollars per capita. The final economic control variable, *Deficit*, is based on CAFR information within the *Statement of Revenues, Expenditures, and Changes in Fund Balances* for governmental funds. This indicator variable is equal to one if the municipality has a prior year excess of expenditures over revenues at the governmental funds level (after other financing sources and uses), otherwise the value is zero.

[15] Note that *unreserved-nonspecific* fund balances are not an officially defined category by either the GASB or NCGA. I use this category to avoid allocating indistinct *unreserved* balances to other categories.

Moreover, I have three demographic control variables in Equation (1). *LogPopul* is the natural log of a municipality's population from the U.S. Census Bureau. *IncomePC* is the income per capita (in thousands of dollars) within the county of the municipality as found in the American Community Survey by the U.S. Census Bureau. *Unemp* is the unemployment rate (in percentage form) within a municipality's county from the Local Area Unemployment Statistics via the Bureau of Labor Statistics (Stewart et al. 2017).

I also include *Educ* that represents the percentage of citizens with a bachelor's degree within a municipality's county from the Census Bureau's American Community Survey (Rich et al. 2016). Another control variable added is *CouncilMgr* representing an indicator variable equal to one if the municipality has a council-manager form of government, equal to zero otherwise (i.e., strong-mayor form) according to the ICMA (2011) Municipal Form of Government Survey (Rich et al. 2016). A council-manager form of government represents a system where an elected council appoints a governmental administrator, while a strong-mayor form represents a system where the elected mayor also runs the operations of the government.[16] State indicator variables (*d*) are inserted in Equation (1) as well.

To test H1-H8 (i.e., finding the economic and demographic determinants of GASB 54 total governmental fund balance category amounts), I will use pooled OLS in Equation (2):

[16] Even though career finance officers in council-manager forms are expected to have greater expertise and less political pressures for managing government finances than elected officials in strong-mayor forms, Stewart (2009) finds an unexpected relationship between lower *unreserved* balances and the council-manager form. This evidence is not enough to suggest any directional hypotheses within the paper.

$$FBPcnt_{jit}(or\ FB_{kit})$$

$$= \beta_0 + \beta_1 PropTaxPC_{it} + \beta_2 ServFeesPC_{it} + \beta_3 DebtIssPC_{it} + \beta_4 IGRevPC_{it}$$

$$+ \beta_5 Deficit_{i(t-1)} + \beta_6 LogPopul_{it} + \beta_7 IncomePC_{it} + \beta_8 Unemp_{it} + \beta_9 Educ_{it}$$

$$+ \beta_{10} CouncilMgr_{it} + d_i + t_i + \varepsilon_{it} \quad (2)$$

The sample used in Equation (2) consists of municipality-year observations from fiscal year-end 2012 to fiscal year-end 2015.[17] As described above, my dependent variables are separate fund balance flexibility ratios (*FBPcnt*) or subsets of total governmental fund balance amounts per capita (*FB*) under GASB 54's guidance. The dependent variables in this determinants model are specified in time t, similar to most independent variables.

The economic characteristics of interest (i.e., *PropTaxPC*, *ServFeesPC*, *DebtIssPC*, *IGRevPC*, and *Deficit*) and demographic variables of interest (i.e., *LogPopul*, *IncomePC*, and *Unemp*) within Equation (2) are the same as described in Equation (1). Additional control variables (i.e., *Educ* and *CounMgr*) are also similar to those described earlier. Equation (2) includes state indicator variables (*d*) and yearly indicator variables (*t*). My estimates incorporate municipality-clustered standard errors. As explained in H1-H8, I predict that *PropTaxPC*, *ServFeesPC*, and *IncomePC* will be positively related to flexible fund balances, but *DebtIssPC*, *IGRevPC*, *Deficit*, *LogPopul*, and *Unemp* will be negatively related to flexible fund balances.

RESULTS

[17] Since Equation (2) has a lagged independent variable (i.e., *Deficit*), I cannot analyze GASB 54 fund balance dependent variables for 2011 (i.e., the fiscal year-end after the GASB 54 implementation required date).

Univariate Results

Table 2.2 contains summary statistics for all variables. With *UnrestrictedPcnt* having a mean of 51.59 percent, this suggests that about half of all governmental fund balances in the sample fall into the combined *committed*, *assigned*, and *unassigned* balances. Similarly, *UnassignedPcnt* having a mean of 50.45 percent demonstrates that about half of all sample *unrestricted* governmental fund balances can be found in the *unassigned* category.[18] To assess the magnitude of raw fund balance amounts, I include all municipality-year observations (n = 792). I find means of $5.18 million, $38.66 million, $13.81 million, $11.38 million, and $13.81 million for *Nonspendable*, *Restricted*, *Committed*, *Assigned*, and *Unassigned* governmental fund balances, respectively. However, the medians are $1.03 million, $19.85 million, $3.28 million, $4.36 million, and $10.21 million, respectively. This suggests a right skew in my data where some larger municipalities are driving the means larger than the medians. With *GFOARecRev* having a mean of 0.41 and *GFOARecExp* having a mean of 0.42, this indicates that just under half of municipality-year observations follow GFOA fund balance reserve recommendations at the total governmental funds level.

[TABLE 2.2 ABOUT HERE]

In regards to the pre-GASB 54 funds, *Reserved* balances represent larger amounts than *unreserved-designated* (i.e., *UnreservedD*), *unreserved-undesignated* (i.e., *UnreservedU*), and "non-specific" *unreserved* balances (i.e., *UnreservedN*).[19] With sample means of $48.18 million, $44.87 million, $35.32, and $49.32 million for *PropTax*, *ServFees*, *DebtIss*, and *IGRev*, respectively, property taxes, general service charges, and intergovernmental revenues appear to

[18] Note that the variables *UnrestrictedPcnt* and *UnassignedPcnt* only include observations with non-negative *unassigned* governmental fund balances (n = 712).
[19] Note that the pre-GASB 54 fund balances only include fiscal-year 2010 amounts (t-1) from the usable sample that is run in Equation (1) (n = 228).

be more prominent sources of funding than new long-term debt proceeds for the average municipality. Prior *Deficit* observations appear to make up 45 percent of my prior municipality-year sample. The typical municipality also has about 105,000 in population (i.e., *Popul*), about $45,000 in county-level per capita income (i.e., *IncomePC*), and unemployment of 6.98 percent (i.e., *Unemp*).

Table 2.3 provides pairwise correlations for variables used in the study. Panel A shows variables used in Equation (1) (n = 228). I find significant correlations at the five percent level between *ReservedPC* and *UnrestrictedPcnt* (-0.25), and also between *UnreservedDPC* and *UnassignedPcnt* (-0.32) (n = 196). These findings give initial evidence that most *reserved* balances went outside of *unrestricted* categories after GASB 54, while most *unreserved-designated* balances were not allocated to the *unassigned* balance after GASB 54. *ReservedPC* seems to have significantly positive relationships to all future GASB 54 fund balances per capita, but the highest correlation (0.75) is with *restricted* balances (i.e., *RestrictedPC*). *UnreservedDPC* also shows positive correlations with all GASB 54 balances, but has the highest correlation (0.76) with *assigned* balances (i.e., *AssignedPC*). *Unreserved-undesignated* balances (i.e., *UnreservedUPC*) only shows a significant positive correlation (0.18) with *unassigned* per capita balances (i.e., *UnassignedPC*), while "non-specific" *unreserved* balances (i.e. *UnreservedNPC*) are positively correlated with *committed* (0.24) and *unassigned* (0.40) balances (i.e., *CommittedPC* and *UnassignedPC*, respectively). These stated correlations tend to follow findings from Chase and Roybark (2013) and Kelly (2013).

[TABLE 2.3 ABOUT HERE]

Panel B displays pairwise correlations for variables run in Equation (2) for H1-H8 (n = 792). Using observations with non-negative *unassigned* balances (n = 712), I find a significant

positive correlation at the five percent level (0.16) between *UnrestrictedPcnt* and *PropTaxPC*, supporting H1. With the full Equation (2) sample, I find some evidence for H6 in significant negative correlations between *LogPopul* and both flexible fund balance ratios. *IncomePC*, *Unemp*, and the *Educ* control variables show significant swapped signs when correlated with different measurements of fund balance flexibility percentages (i.e., *UnrestrictedPcnt* and *UnassignedPcnt*), suggesting mixed results for H7 and H8. As estimated in Equation (2), the only pairwise correlations shown above 0.40 (or -0.40) for independent variables run simultaneously is between *PropTaxPC* and *IGRevPC*, *PropTaxPC* and *StIGRevPC*, and *IncomePC* and *Educ* (at 0.55, 0.57, and 0.46, respectively).

Multivariate Results

I estimate Equation (1) with OLS to investigate GASB 54's reclassification of fund balances (i.e., RQ1). Table 2.4, Panel A analyzes the relationship between pre- and post-GASB 54 fund balance relationships with flexibility ratios (i.e., *UnrestrictedPcnt* and *UnassignedPcnt*) for dependent variables in time t and separately inserted independent variables of interest for NCGA-defined prior fund balance per capita categories (i.e., *ReservedPC*, *UnreservedDPC*, and *UnreservedUPC*) in time t-1. In Column [1], I find a significant negative coefficient estimate (-18.832; p = 0.001) for *ReservedPC* that suggests prior *reserved* balances were allocated in more restrictive funds (i.e., *nonspendable* or *restricted*) than *unrestricted* balances under GASB 54. An insignificant relationship in Column [2] suggests that *ReservedPC* has little information within the *unassigned* balances. A significant positive estimate (14.804; p = 0.013) in Column [3] and a significant negative estimate (-23.605; p =0.001) in Column [4] for *UnreservedDPC* indicates that prior *unreserved-designated* fund balances were generally appropriated to the new

unrestricted balances, but not towards the *unassigned* category. Both insignificant estimates of *UnreservedUPC* in Columns [5] and [6] demonstrate contrary results to Chase and Roybark (2013) and Kelly (2013) in that amounts within the prior *unreserved-undesignated* classifications were actually spread throughout various GASB 54 fund balances (e.g., *undesignated* highway funding in a highway fund now considered *restricted* under GASB 54).

[TABLE 2.4 ABOUT HERE]

Table 2.4, Panel B tests Equation (1) with fund balance flexibility ratio dependent variables in time t and a non-specifically disclosed *unreserved* governmental funds independent variable (i.e., *UnreservedNPC*) in time t-1. Both coefficients for *UnreservedNPC* show insignificance at predicting *UnrestrictedPcnt* and *UnassignedPcnt*, again suggesting that pre-GASB 54 governmental fund balances had inconsistent application depending on fund purposes. Based on my fund balance flexibility percentages, there appears to be predictability with allocating prior *reserved* and *unreserved-designated*, but not *unreserved-undesignated* nor *unreserved-nonspecific* balances.

To assess the relative allocation of fund balance amounts per capita from prior categories in 2010 (time t-1) to GASB 54 categories in 2011 (time t), I also estimate Equation (1) in Table 2.5 with separate dependent variables for each GASB 54 fund balance (i.e., *NonspendablePC*, *RestrictedPC*, *CommittedPC*, *AssignedPC*, and *UnassignedPC*) and one with a composite *unrestricted* fund balance (i.e., *UnrestrictedPC*). Panel A first tests the association of *ReservedPC* on GASB 54 balances per capita. I find positive significant coefficients in Columns [1] and [2] (both $p < 0.001$). This indicates that, other things held constant, a $1,000 increase in prior *reserved* balances per capita would separately increase *nonspendable* balances per capita by $180 and increase *restricted* balances per capita by $623. No other coefficient for flexible fund

balances is significant in Columns [3]-[6], which suggests that prior *reserved* amounts were allocated to *nonspendable* and especially *restricted* fund balances.

[TABLE 2.5 ABOUT HERE]

Table 2.5, Panel B assesses the relationship between *UnreservedDPC* and GASB 54 balances. Throughout Columns [1]-[6] I detect significant coefficients (all $p < 0.05$) for *UnreservedDPC* with all separate GASB 54 fund balances per capita and *UnrestrictedPC*. Others things equal, a $1,000 increase in prior *unreserved-designated* governmental fund balances would increase *nonspendable* by $77, *restricted* by $324, *committed* by $67, *assigned* by $406, and *unassigned* balances by $96. Panel C looks at how *UnreservedUPC* impacts the newer fund balance categories. I find significant positive estimates for *RestrictedPC* in Column [2] and *UnassignedPC* in Column [5] at the five percent level (increases of $191 and $207, respectively, with a $1,000 increase in *UnreservedUPC*). The panel also displays a negative coefficient for *NonspendablePC* in Column [1] and a positive coefficient for *CommittedPC* in Column [3] significant at the ten percent level. Both of these panel results highlight more evidence that specific fund purposes obfuscated the actual fund balance flexibility of amounts prior to GASB 54.

Panel D of Table 2.5 checks the association of non-specific *unreserved* prior balances per capita (i.e., *UnreservedNPC*) on GASB 54 balances. The findings suggest a less noisy prior category than NCGA-defined fund balance classifications (i.e., *UnreservedDPC* or *UnreservedUPC*). The only significant coefficients are for *CommittedPC* in Column [3] and *UnassignedPC* in Column [5] (both $p < 0.01$). A $1,000 increase in prior non-specific *unreserved* fund balance is associated with a $103 increase in *committed* and $192 increase in

unassigned balances. I do not detect any significance with *NonspendablePC* nor *RestrictedPC* (nor *AssignedPC*).

Equation (2) addresses H1-H8 and will use a pooled OLS model with municipality-clustered standard errors to assess the associations between determinants in time t and GASB 54 per capita fund balance classification amounts (or percentages of more flexible fund balances) in time t. *PropTaxPC*, *ServFeesPC*, and *IncomePC* (i.e., H1, H2, and H7 respectively) are expected to be positively related to flexible fund balances. *DebtIssPC*, *IGRevPC*, *Deficit*, *LogPopul*, and *Unemp* (i.e., H3, H4, H5, H6, and H8 respectively) are expected to be positively related to flexible fund balances.

Table 2.6 estimates Equation (2) with my fund balance flexibility ratios. I detect few results that my economic variables of interest influence flexibility percentage measures. For *PropTaxPC*, there is an insignificant coefficient when the dependent variable is *UnrestrictedPcnt* in Column [1] and a significant negative coefficient (-21.105; $p = 0.004$) when the dependent variable is *UnassignedPcnt* in Column [2]. This evidence suggests property taxes are generally allocated for specific purposes (not slack accumulation) and goes against H1. At the ten percent significance level, the coefficient for *ServFeesPC* is 4.255 ($p = 0.097$) in Column [1] (and no significance in Column [2]). This gives only some support to H2 in that general service charges can be used for discretionary spending, but not as much for slack accumulation (Stewart et al. 2013).

[TABLE 2.6 ABOUT HERE]

My demographic independent variables of interest show more statistically significant parameter estimates. With significant negative estimates ($p < 0.05$) of *LogPopul* in both Columns [1] and [2], this points to evidence that municipalities with larger populations are associated with

less governmental fund balance flexibility (e.g., Stewart 2009; Wang and Hou 2012). *IncomePC* having a positive coefficient (0.251; p = 0.021) in Column [1] suggests that wealthier municipalities have both a higher tax base and expectations towards internally-appropriated spending (i.e., higher community investment) (e.g., Arapis and Reitano 2017). The negative coefficient for *Unemp* (-1.243; p = 0.026) in Column [1] suggests internal spending cuts in the presence of higher unemployment conditions (Stewart et al. 2013; Jimenez 2017). Thereby, these findings indicate support for H6-H8. Also interestingly, I find a significant negative relationship (-0.299; p = 0.016) between *Educ* and *UnassignedPcnt* in Column [2] inferring that perhaps more educated citizenry expects greater usage of fund balances and not financial accumulation.

Table 2.7 shows results of my determinants model (i.e., Equation (2)) with separate GASB 54 fund balance per capita dependent variables. Within Column [1] for *NonspendablePC*, there is a positive coefficient with *IGRevPC* (16.788; p = 0.049) and a negative coefficient with prior *Deficit* (-12.577; p = 0.030) at the five percent level. This could indicate that higher-government level grants may provide funding for inventory for specific projects, and that prior deficits reduce municipalities' ability to replenish its inventory or prepaid expenses. At the ten percent significance level, there is some evidence that wealthier municipalities (*IncomePC* -1.388; p = 0.063) hold fewer not-spendable-in-form funds. For *RestrictedPC* in Column [2], a significant positive coefficient is found for *IGRevPC* (103.424; p = 0.002), suggesting that higher level governments may place restrictions on funding usage. There is also some evidence of higher property taxes per capita (*PropTaxPC* 159.319; p = 0.091) being partially allocated to *restricted* purposes (e.g., capital projects or debt service). More educated municipalities (i.e., *Educ*) are also found to be related to higher *restricted* balances.

[TABLE 2.7 ABOUT HERE]

For Column [3], both *PropTaxPC* (279.506; p = 0.002) and *ServFeesPC* (43.457; p = 0.050) are positively associated with *CommittedPC*. This indicates that municipalities use property taxes and service fees to pay for internally mandated spending functions (e.g., police or library budgeted items). At the ten percent significance level, using *AssignedPC* in Column [4] shows a negative relationship with *DebtIssPC* (-45.337; p = 0.082), but a positive relationship with *IGRevPC* (89.450; p = 0.054). These findings may infer that debt proceeds are typically not used for intended-only purposes, and that intergovernmental revenues may give some flexibility to use for intended purposes. As well, there is a positive relationship between *Educ* and *AssignedPC*.

UnassignedPC is the dependent variable in Column [5]. I see significant positive coefficients for *ServFeesPC* (102.965; p = 0.011) and *IGRevPC* (152.098; p = 0.006). These funding sources are suggested to allow municipalities to build financial slack (e.g., fees beyond service costs or state tax sharing). This provides support for H2 but not H4. Showing evidence for H5, a prior *Deficit* (-27.552; p = 0.006) appears to reduce *unassigned* fund balances in the subsequent year. *LogPopul* having a coefficient of -59.237 (p = 0.011) indicates larger populations reduce financial flexibility (supporting H6).

Column [6] runs Equation (2) with an *UnrestrictedPC* dependent variable. Support for H1 and H2 is found with positive estimates for *PropTaxPC* and *ServFeesPC* ($p < 0.05$), suggesting internal government flexibility with these funding sources. *IGRevPC* (260.250; p = 0.002) also follows this suggestion, but goes against my H4. A prior *Deficit* (-36.455; p = 0.063) is shown to be negatively related to *UnrestrictedPC* at a ten percent level following H5. Similar to *UnassignedPC*, larger population municipalities (i.e., *LogPopul*) demonstrate a lack of fund

balance flexibility with *UnrestrictedPC* (-73.630; p = 0.042), again supporting H6. Additionally, *Educ* (6.688; p = 0.024) is found to be positively related to *UnrestrictedPC*.

Based on my results from Tables 2.6 and 2.7, only some of my economic-based hypotheses are supported. I find mixed evidence for H1. A negative estimate on *PropTaxPC* when the dependent variable is *UnassignedPcnt* and positive estimates when dependent variables are *CommittedPC* and *UnrestrictedPC* suggest property tax revenues tend to fund internally-imposed purposes. H2 appears supported as *ServFeesPC* is significantly positive for dependent variables *CommittedPC*, *UnassignedPC*, and *UnrestrictedPC* (and *UnrestrictedPcnt* at the ten percent level) indicating general service charges as fund source for both financial accumulation and municipality mandated purposes. There is a lack of support for H3 since only *DebtIssPC* is negatively related to *AssignedPC* at the ten percent significance level. This could entail municipalities use long-term debt proceeds for both restrictive purposes (e.g., capital projects) and financial flexibility. Results are also mixed for H4. Both coefficients of *IGRevPC* are insignificant for flexible fund balance ratio dependent variables, but also both coefficients are significantly positive during *RestrictedPC* and *Unrestricted PC*. These conflicting findings may suggest different characteristics with certain types of intergovernmental transfers (e.g., state tax sharing or federal redevelopment grants). Based on negative estimates of prior *Deficit* when the dependent variables are *UnassignedPC* and *UnrestrictedPC* lend some support for H5. It appears that many fund balance categories are affected by prior deficits, but predominantly the most flexible *unassigned* balances.

In general, Tables 2.6 and 2.7 generally demonstrates evidence for my demographic hypotheses. When dependent variables are *UnrestrictedPcnt*, *UnassignedPcnt*, *UnrestrictedPC*, and *UnassignedPC*, all coefficient estimates of *LogPopul* are significantly negative, which lends

evidence towards H6. Even though larger municipalities may have more people to provide services for, they may also have higher efficiencies due to more densely clustered populations requiring less investment per person. H7 shows only some support. *IncomePC* is positively related to *UnrestrictedPcnt*, but does not show any significance toward any specific flexible fund balance category. This could entail wealthier municipalities enjoy financial flexibility to adjust specific fund balances as required. Similarly with H8 on slight support, *Unemp* is only significantly negatively related to *UnrestrictedPcnt*, but not other flexible funds balances per capita. This points to a lack of spending flexibility to adjust specific fund balance types.

Supplemental Analyses

In addition to modeling determinants of fund balances and flexibility, I follow Arapis and Reitano (2018) and examine the factors that may contribute to municipalities adhering to the GFOA's (2015) recommendation to hold two months of total estimated revenues (or expenditures) within *unrestricted* fund reserves. I test Equation (2) with alternate dependent variables either *GFOARecRev* or *GFOARecExp*.[20] This variable is estimated by taking total revenues (or expenditures) from Census government data in Pierson et al. (2015) and dividing the amount by six (i.e., for two months' worth). *GFOARecRev* (or *GFOARecExp*) represents an indicator variable equal to one if a municipality-year observation has an *unrestricted* governmental fund balance greater than or equal to the approximate two months' worth of total annual revenues (or expenditures), equal to zero otherwise. A linear probability model is run to analyze relationships with these new dependent variables. As the GFOA's recommendation

[20] Even though the GFOA's recommended ratio is measured at the "general fund" level (GFOA 2015), I argue that the total governmental funds provides greater information content for analyzing fund balance reserves.

encourages accumulating *unrestricted* reserves, I would expect similar association directions as the determinants and flexible balance relationships in Equation (2).

[TABLE 2.8 ABOUT HERE]

As shown in Table 2.8, most hypothesized determinants do not seem to predict adherence to GFOA recommended reserves at the governmental funds level. Surprisingly, coefficients for *ServFeesPC* are both significantly negative ($p < 0.05$) in Columns [1] and [2] suggesting that general services fees hinder municipalities' ability to accumulate reserves compared to operating revenues or expenditures. Perhaps this reflects service costs exceeding usage revenues. At the ten percent significance level, there is a negative association between prior *Deficit* and *GFOARecExp* (-0.055; $p = 0.077$) in Column [2]. This could indicate both a decrease in reserves and a relatively inelastic degree of citizen service expectations. Both significantly positive estimates of *IncomePC* ($p < 0.01$) signal that wealth assists municipalities in building reserves to withstand potential financial hardships (Arapis and Reitano 2018). Positive coefficients found for both *Educ* and *CouncilMgr* could indicate higher financial accountability with a relatively more educated population, and greater financial and operational expertise with a council-manager form of government.

As demonstrated by the significant results of *IGRevPC* with several conflicting fund balance types, there could be underlying characteristics with different types of intergovernmental revenues. The federal government could provide grants for specific restrictive purposes (e.g., crime or highway repairs) or on a "needs basis" (e.g., struggling school district performance or depressed downtown redevelopment funds). On the other hand, some state intergovernmental transfers could be due to returns of taxes and revenues collected by the municipality's state. Accordingly, I estimate Equation (2) by separating *IGRevPC* into total federal intergovernmental

revenues (i.e., *FedIGRevPC*) and total state intergovernmental revenues (i.e., *StIGRevPC*) each per capita in thousands of dollars.

[TABLE 2.9 ABOUT HERE]

In Table 2.9, Panel A uses the flexible fund balance percentages as dependent variables. *FedIGRevPC* shows insignificance for both columns, while *StIGRevPC* is positively related to *UnassignedPcnt* (8.294; p = 0.097) in Column [2]. Panel B utilizes dependent variables for GASB 54 fund balance types per capita. In Columns [4] and [6], *FedIGRevPC* is positively associated with *AssignedPC* (270.662; p = 0.085) and *UnrestrictedPC* (464.439; p = 0.079). This suggests some federal transfers allow municipalities discretion in spending. Somewhat remarkably, there is no evidence that federal intergovernmental revenues (i.e., restrictive use grants) build *restricted* fund balances. Columns [2], [5], and [6] shows positive estimates for *StIGRevPC* (all p < 0.01) with *RestrictedPC*, *UnassignedPC*, and *UnrestrictedPC* dependent variables, respectively. Outside of flexible use revenue sharing, states appear to also provide restrictively purposed funding. Overall, higher level governments appear to make intergovernmental transfers for a variety of reasons and a range of restrictiveness.

CONCLUSION

My paper has two primary research objectives. Firstly, I investigate the rearranging of newly implemented GASB 54 fund balances from the prior year's pre-GASB 54 fund balances. The classification rearrangement model indicates that prior *reserved* governmental fund balances are directly associated with *nonspendable* and *restricted* GASB 54 fund balance types. Despite *unreserved-designated* prior balances being positively associated with flexible fund balance

ratios, those balances (and somewhat *unreserved-undesignated* balances) are also positively associated with both more restrictive and flexible GASB 54 fund balance categories, suggesting a wide variation of fund balance classification depending on fund purpose. Any "non-specific" *unreserved* balances appear to be related to *committed* and *unassigned* fund balances.

Secondly, I seek to find the determinants of GASB 54-based fund balances based on spending flexibility. The determinants model shows general service fees being positively associated with fund balance flexibility and prior period deficits being negatively associated with fund balance flexibility. Long-term debt proceeds shows no predictive value of flexible fund balances, while results are mixed for both property tax and intergovernmental revenues. Also, population indicates a negative relationship with fund balance flexibility. Some evidence is found that flexible fund balances are directly associated with income per capita and indirectly associated with unemployment.

This study offers several contributions to previous research. Instead of limiting the research design to one subset of fund balances (e.g., Hendrick 2006), my analysis finds determinants of GASB 54's comprehensive set of fund balance categories and their respective spending flexibility. Additionally, my design incorporates information from the entire primary government by measuring fund balances with the total governmental funds amounts (e.g., Wang and Hou 2012). Finally, I conduct a more comprehensive analysis of the realignment of prior fund balance amounts by analyzing each updated fund category (e.g., Chase and Roybark 2013; Kelly 2013), and suggesting significant benefits to GASB 54' implementation.

Even though my paper furthers governmental fund balance knowledge, it contains some inherent limitations. Some municipalities may have been inconsistent in their applications of fund balances for items before GASB 54 (Brooks and Mead 2010), which includes the option not

to use *unreserved-designated* balances or make "non-specific" *unreserved* balances (Tyer 1993). Thus, this adds noise to my analysis in finding the relative compositions of newly implemented GASB 54 fund balances. As well, there could be other unobserved individual municipality factors that influence the necessity of different fund balances and respective flexibility (e.g., officials' pressures to fulfill campaign promises or propensity towards short- or long-term planning).

Since municipalities could potentially manipulate fund balance categories by shifting balances to similarly purposed funds pre-GASB 54, analyzing *unreserved* fund balance information may have been less reliable in the past. Future research could investigate whether GASB 54 fund balance information better predicts fiscal distress and bankruptcies than in years prior to the standard's implementation. Furthermore, another study could investigate fund balance manipulation prior to debt issuances (i.e., municipal bonds) in the pre-GASB 54 period to see if municipalities shifted funds from *reserved* to *unreserved* before debt was acquired to potentially gain favorable debt outcomes (i.e., lower bond interest costs or higher ratings).

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FIGURE 2.1

Comparison of FASB and GASB Balance Sheets

FASB

Company A
Balance Sheet
December 31, 20XX

ASSETS		
Total assets		XXX,000
LIABILITIES AND STOCKHOLDERS' EQUITY		
Liabilities:		
Total liabilities	XXX,000	
Stockholders' equity:		
Total stockholders' equity	XXX,000	
Total liabilities and stockholders' equity		XXX,000

GASB

City B
Balance Sheet
Governmental Funds
December 31, 20XX

ASSETS		
Total assets		XXX,000
LIABILITIES AND FUND BALANCES		
Liabilities:		
Total liabilities	XXX,000	
Fund balances:		
Total fund balances	XXX,000	
Total liabilities and fund balances		XXX,000

FIGURE 2.2

Governmental Fund Balance Sheet Example Pre- and Post-GASB 54

CITY OF HARRISONBURG, VIRGINIA
GOVERNMENTAL FUNDS
BALANCE SHEET
At June 30, 2010

Exhibit 3

	General Fund	Community Development Block Grant Fund	General Capital Projects Fund	Total Governmental Funds
Assets				
Cash and cash equivalents	$ 17,853,146	$ -	$ 9,590,455	$ 27,443,601
Receivables (net of allowance for uncollectibles)	36,609,730	178,774	1,638,494	38,426,998
Inventory	110,387	-	-	110,387
Prepaid expenditures	106,193	-	-	106,193
Advance to other funds	246,507	-	-	246,507
Loans receivable	10,577,131	-	-	10,577,131
Restricted assets	284,297	-	772,478	1,056,775
Total assets	$ 65,787,391	$ 178,774	$ 12,001,427	$ 77,967,592
Liabilities and Fund Balances				
Liabilities:				
Accounts payable	$ 1,049,659	$ 86,384	$ 1,519,885	$ 2,655,928
Accrued payroll	945,250	3,049	-	948,299
Due to component unit	80,255	-	17,676	97,931
Advance from other funds	-	89,341	-	89,341
Deferred revenue	43,474,897	122,388	819,414	44,416,699
Other liabilities	273,035	-	60,000	333,035
Total liabilities	$ 45,823,096	$ 301,162	$ 2,416,975	$ 48,541,233
Fund Balances:				
Reserved	$ 1,919,969	$ -	$ 2,595,584	$ 4,515,553
Unreserved:				
Designated	1,662,934	-	6,988,868	8,651,802
Undesignated	16,381,392	(122,388)	-	16,259,004
Total fund balances	$ 19,964,295	$ (122,388)	$ 9,584,452	$ 29,426,359
Total liabilities and fund balances	$ 65,787,391	$ 178,774	$ 12,001,427	$ 77,967,592

The accompanying notes to financial statements are an integral part of this statement.

CITY OF HARRISONBURG, VIRGINIA
GOVERNMENTAL FUNDS
BALANCE SHEET
At June 30, 2011

Exhibit 3

	General Fund	Community Development Block Grant Fund	General Capital Projects Fund	Total Governmental Funds
Assets				
Cash and cash equivalents	$ 22,384,619	$ -	$ 10,308,004	$ 32,692,623
Receivables (net of allowance for uncollectibles)	37,091,742	216,940	1,923,684	39,232,366
Due from other funds	24,199	-	-	24,199
Inventory	81,804	-	-	81,804
Prepaid expenditures	283,090	531	-	283,621
Advance to other funds	315,392	-	-	315,392
Loans receivable	9,860,523	-	-	9,860,523
Restricted assets	284,297	-	4,399,140	4,683,437
Total assets	$ 70,325,666	$ 217,471	$ 16,630,828	$ 87,173,965
Liabilities and Fund Balances				
Liabilities:				
Accounts payable	$ 1,257,083	$ 84,011	$ 1,939,360	$ 3,280,454
Accrued payroll	963,763	3,245	-	967,008
Due to other funds	-	-	24,199	24,199
Due to component unit	96,720	-	-	96,720
Advance from other funds	-	129,684	-	129,684
Deferred revenue	42,574,889	6,955	1,473,648	44,055,492
Other liabilities	165,532	-	-	165,532
Liabilities payable from restricted assets	-	-	270,668	270,668
Total liabilities	$ 45,057,987	$ 223,895	$ 3,707,875	$ 48,989,757
Fund Balances:				
Nonspendable	$ 1,055,286	$ 531	$ -	$ 1,055,817
Restricted	464,466	-	4,128,472	4,592,938
Committed	860,879	-	8,794,481	9,655,360
Assigned	4,175,696	-	-	4,175,696
Unassigned	18,711,352	(6,955)	-	18,704,397
Total fund balances	$ 25,267,679	$ (6,424)	$ 12,922,953	$ 38,184,208
Total liabilities and fund balances	$ 70,325,666	$ 217,471	$ 16,630,828	$ 87,173,965

The accompanying notes to financial statements are an integral part of this statement.

TABLE 2.1

Sample Selection

Panel A: Equation (1) Classification Rearrangement Model Sample

Potential Year 2011 municipality observations from Rich et al. (2016)	364
Less observations missing 2011 GASB 54 fund balances	(9)
Less observations with early 2010 GASB 54 adoption	(36)
Less observations missing unemployment and income data	(53)
Less observations missing Census financial data	(38)
Final sample of municipality observations	228

Panel B: Equation (2) Determinants Model Sample

Potential municipality-year observations from Rich et al. (2016) between 2011-2015 (364 x 5)	1,820
Less 2011 observations for prior-specified deficit independent variable (t-1)	(364)
Less observations with missing CAFRs	(12)
Less observations missing unemployment and income data	(341)
Less observations missing Census financial data	(311)
Final sample of municipality-year observations	792

TABLE 2.2

Descriptive Statistics

Variable	Mean	Std. Dev.	Q1	Median	Q3
UnrestrictedPcnt$_{(}$	51.59	21.80	34.25	50.17	67.53
UnassignedPcnt$_t$	50.45	26.59	30.11	49.79	72.14
Nonspendable$_t$	5.18	12.68	0.23	1.03	4.04
Restricted$_t$	38.66	62.77	7.96	19.85	47.69
Committed$_t$	13.81	29.95	0.04	3.28	14.47
Assigned$_t$	11.38	23.24	1.05	4.36	11.41
Unassigned$_t$	13.81	28.52	3.55	10.21	19.63
Unrestricted$_t$	39.00	56.21	11.14	22.69	46.67
GFOARecRev$_t$	0.41	0.49	0.00	0.00	1.00
GFOARecExp$_t$	0.42	0.49	0.00	0.00	1.00
Reserved$_{(t-1)}$	30.47	45.51	4.65	13.35	32.81
UnreservedD$_{(t-1)}$	19.96	59.60	0.00	2.10	15.24
UnreservedU$_{(t-1)}$	19.21	40.32	0.00	8.42	24.68
UnrestrictedN$_{(t-1)}$	9.39	25.69	0.00	0.00	5.78
PropTax$_t$	48.18	87.74	13.53	24.58	49.87
ServFees$_t$	44.87	65.37	15.24	25.90	47.01
DebtIss$_t$	35.32	113.30	0.00	8.22	32.13
IGRev$_t$	49.32	115.32	9.07	18.54	40.45
FedIGRev$_t$	8.60	15.10	1.07	3.16	9.48
StIGRev$_t$	35.18	100.74	4.90	9.98	22.99
Deficit$_{(t-1)}$	0.45	0.50	0.00	0.00	1.00
Popul$_t$	105.42	113.77	48.12	74.90	116.81
IncomePC$_t$	45.18	12.33	36.66	41.87	49.71
Unemp$_t$	6.98	2.48	5.20	6.60	8.15
Educ$_t$	30.20	13.48	20.30	26.80	36.85
CouncilMgr$_t$	0.73	0.45	0.00	1.00	1.00

Table 2.2 shows descriptive statistics for all variables used within the study. *UnrestrictedPcnt* and *UnassignedPcnt* only includes observations with non-negative *unassigned* balances (n = 712). *Nonspendable*, *Restricted*, *Committed*, *Assigned*, *Unassigned*, and *Unrestricted* (i.e., combined total *committed*, *assigned*, and *unassigned*) governmental fund balances are in millions of dollars. *Reserved*, *UnreservedD*, *UnreservedU*, and *UnreservedN* represent the pre-GASB 54 *reserved*, *unreserved-designated*, *unreserved-undesignated*, and *unreserved-nonspecific* governmental fund balances in millions of dollars, respectively. Note that these pre-GASB 54 variables' statistics are based on the Equation (1) sample (n = 228). *PropTax*, *ServFees*, *DebtIss*, *IGRev*, *FedIGRev*, and *StIGRev* is the total property tax revenues, general service charges, long-term debt issued, intergovernmental revenues, federal intergovernmental revenues, and state intergovernmental revenues, respectively, in millions of dollars. *Popul* the municipality's population in thousands of people. The remaining variable descriptions can be found in Appendix 2A.

TABLE 2.3

Pairwise Correlations

Panel A: Equation (1) Classification Rearrangement Model Sample (n = 228)

	UnrestrictedPcnt(	*UnassignedPcnt$_t$*	*NonspendablePC$_t$*	*RestrictedPC$_t$*	*CommittedPC$_t$*	*AssignedPC$_t$*	*UnassignedPC$_t$*	*UnrestrictedPC$_t$*	*ReservedPC$_{(t-1)}$*	*UnreservedDPC$_{(t-1)}$*
UnrestrictedPcnt(	1.00									
UnassignedPcnt$_t$	-0.20*	1.00								
NonspendablePC$_t$	-0.12	-0.09	1.00							
RestrictedPC$_t$	-0.57*	-0.02	0.18*	1.00						
CommittedPC$_t$	0.41*	-0.41*	-0.05	-0.02	1.00					
AssignedPC$_t$	0.20*	-0.32*	0.43*	0.30*	0.10	1.00				
UnassignedPC$_t$	0.34*	0.33*	0.14*	0.19*	0.22*	0.30*	1.00			
UnrestrictedPC$_t$	0.43*	-0.25*	0.30*	0.25*	0.57*	0.79*	0.67*	1.00		
ReservedPC$_{(t-1)}$	-0.25*	-0.10	0.26*	0.75*	0.15*	0.34*	0.29*	0.39*	1.00	
UnreservedDPC$_{(t-1)}$	0.08	-0.32*	0.35*	0.35*	0.26*	0.76*	0.17*	0.66*	0.26*	1.00
UnreservedUPC$_{(t-1)}$	0.07	-0.02	0.13	0.14	0.10	0.06	0.18*	0.15*	-0.01	0.00
UnrestrictedNPC$_{(t-1)}$	0.11	0.03	-0.12	0.07	0.24*	-0.02	0.40*	0.24*	0.04	-0.19*
PropTaxPC$_t$	0.06	-0.07	0.18*	0.18*	0.26*	0.16*	0.30*	0.33*	0.26*	0.14*
ServFeesPC$_t$	0.10	-0.02	0.05	0.08	0.34*	0.05	0.36*	0.32*	0.16*	0.03
DebtIssPC$_t$	-0.05	-0.03	0.21*	0.18*	0.18*	0.24*	0.13	0.28*	0.18*	0.21*
IGRevPC$_t$	0.03	-0.06	0.16*	0.10	0.20*	0.06	0.20*	0.20*	0.09	0.11
Deficit$_{(t-1)}$	-0.06	-0.07	0.02	0.04	0.06	-0.03	-0.03	-0.00	-0.03	0.03
LogPopul$_t$	-0.09	-0.17*	-0.03	0.11	0.11	0.02	-0.12	0.01	0.07	0.14*
IncomePC$_t$	-0.13	-0.12	0.03	0.03	0.20*	0.09	0.10	0.18*	0.09	0.08
Unemp$_t$	-0.21*	0.02	0.18*	0.13	-0.28*	0.08	-0.07	-0.09	0.04	0.10
Educ$_t$	0.11	-0.09	-0.02	0.17*	0.14*	0.23*	0.25*	0.30*	0.13	0.20*
CouncilMgr$_t$	-0.11	0.06	0.03	0.18*	-0.10	0.06	0.05	0.02	0.04	0.10

Table 2.3, Panel A is continued on the next page.

	$UnreservedUPC_{(t-1)}$	$UnrestrictedNPC_{(t-1)}$	$PropTaxPC_t$	$ServFeesPC_t$	$DebtIssPC_t$	$IGRevPC_t$	$Deficit_{(t-1)}$	$LogPopul_t$	$IncomePC_t$	$Unemp_t$
$UnreservedUPC_{(t-1)}$	1.00									
$UnrestrictedNPC_{(t-1)}$	-0.38*	1.00								
$PropTaxPC_t$	0.12	0.09	1.00							
$ServFeesPC_t$	-0.06	0.42*	0.43*	1.00						
$DebtIssPC_t$	0.04	-0.06	0.19*	0.09	1.00					
$IGRevPC_t$	0.15*	0.03	0.51*	0.29*	0.13	1.00				
$Deficit_{(t-1)}$	-0.02	0.10	0.09	0.05	-0.13	0.07	1.00			
$LogPopul_t$	-0.03	-0.06	0.08	-0.00	0.18*	0.13	0.04	1.00		
$IncomePC_t$	0.01	0.11	0.33*	0.12	-0.07	0.05	-0.04	0.10	1.00	
$Unemp_t$	-0.08	-0.00	-0.09	-0.07	-0.11	-0.08	0.11	-0.03	-0.32*	1.00
$Educ_t$	0.12	0.11	0.30*	0.17*	0.06	-0.00	-0.01	0.05	0.43*	-0.33*
$CouncilMgr_t$	0.10	-0.01	-0.04	0.06	0.06	-0.24*	-0.07	-0.03	-0.02	0.14*

	$Educ_t$	$CouncilMgr_t$
$Educ_t$	1.00	
$CouncilMgr_t$	0.09	1.00

* represents significant correlations at the 5% level.

Table 2.3, Panel A shows pairwise correlations for all variables used in Equation (1) (i.e., RQ1). Variable descriptions can be found in Appendix 2A.

Panel B: Equation (2) Determinants Model Sample (n = 792)

	UnrestrictedPcnt(	*UnassignedPcnt$_t$*	*NonspendablePC$_t$*	*RestrictedPC$_t$*	*CommittedPC$_t$*	*AssignedPC$_t$*	*UnassignedPC$_t$*	*UnrestrictedPC$_t$*	*GFOARecRev$_t$*	*GFOARecExp$_t$*
UnrestrictedPcnt(	1.00									
UnassignedPcnt$_t$	-0.18*	1.00								
NonspendablePC$_t$	-0.17*	-0.08*	1.00							
RestrictedPC$_t$	-0.54*	-0.02	0.16*	1.00						
CommittedPC$_t$	0.32*	-0.40*	0.07	0.09*	1.00					
AssignedPC$_t$	0.23*	-0.31*	0.31*	0.27*	0.02	1.00				
UnassignedPC$_t$	0.33*	0.30*	0.14*	0.22*	0.25*	0.31*	1.00			
UnrestrictedPC$_t$	0.42*	-0.21*	0.27*	0.30*	0.58*	0.70*	0.75*	1.00		
GFOARecRev$_t$	0.39*	-0.26*	0.07	0.03	0.37*	0.26*	0.27*	0.44*	1.00	
GFOARecExp$_t$	0.39*	-0.24*	0.04	0.05	0.35*	0.25*	0.27*	0.42*	0.91*	1.00
PropTaxPC$_t$	0.16*	-0.06	0.09*	0.08*	0.41*	0.12*	0.36*	0.42*	-0.03	-0.01
ServFeesPC$_t$	0.01	-0.04	0.15*	0.31*	0.23*	0.18*	0.31*	0.35*	-0.12*	-0.14*
DebtIssPC$_t$	-0.01	-0.02	0.10*	0.13*	0.18*	-0.02	0.16*	0.14*	-0.03	-0.06
IGRevPC$_t$	0.06	0.01	0.07	0.12*	0.19*	0.06	0.30*	0.26*	-0.18*	-0.17*
FedIGRevPC$_t$	-0.05	-0.03	0.12*	0.17*	0.24*	0.15*	0.25*	0.31*	-0.12*	-0.12*
StIGRevPC$_t$	0.04	0.03	0.05	0.12*	0.16*	0.02	0.27*	0.21*	-0.16*	-0.15*
Deficit$_{(t-1)}$	-0.02	0.02	-0.05	-0.03	-0.09*	-0.01	-0.05	-0.07	-0.09*	-0.11*
LogPopul$_t$	-0.12*	-0.15*	0.00	0.10*	0.09*	-0.02	-0.09*	-0.01	0.04	0.05
IncomePC$_t$	0.15*	-0.15*	-0.02	0.05	0.31*	0.09*	0.12*	0.25*	0.20*	0.20*
Unemp$_t$	-0.15*	0.09*	0.18*	0.04	-0.20*	0.02	-0.04	-0.10*	-0.05	-0.08*
Educ$_t$	0.15*	-0.18*	0.03	0.16*	0.23*	0.27*	0.21*	0.35*	0.30*	0.30*
CouncilMgr$_t$	-0.03	-0.01	0.01	0.14*	0.02	0.09*	0.08*	0.09*	0.11*	0.08*

Table 2.3, Panel B is continued on the next page.

	$PropTaxPC_t$	$ServFeesPC_t$	$DebtIssPC_t$	$IGRevPC_t$	$FedIGRevPC_t$	$StIGRevPC_t$	$Deficit_{(t-1)}$	$LogPopul_t$	$IncomePC_t$	$Unemp_t$
$PropTaxPC_t$	1.00									
$ServFeesPC_t$	0.33*	1.00								
$DebtIssPC_t$	0.16*	0.20*	1.00							
$IGRevPC_t$	0.55*	0.32*	0.15*	1.00						
$FedIGRevPC_t$	0.35*	0.36*	0.14*	0.49*	1.00					
$StIGRevPC_t$	0.57*	0.29*	0.15*	0.95*	0.32*	1.00				
$Deficit_{(t-1)}$	0.01	0.05	0.06	0.05	-0.02	0.08*	1.00			
$LogPopul_t$	-0.01	-0.10*	0.10*	0.04	0.04	0.07	0.02	1.00		
$IncomePC_t$	0.34*	0.07	0.04	0.07*	0.04	0.09*	-0.08*	0.13*	1.00	
$Unemp_t$	-0.10*	0.10*	-0.04	-0.08*	-0.09*	-0.06	0.15*	-0.10*	-0.30*	1.00
$Educ_t$	0.26*	0.07	0.04	-0.00	0.01	-0.01	-0.08*	0.07	0.46*	-0.24*
$CouncilMgr_t$	-0.04	0.11*	0.05	-0.17*	0.08*	-0.19*	0.02	-0.01	-0.02	0.11*

	$Educ_t$	$CouncilMgr_t$
$Educ_t$	1.00	
$CouncilMgr_t$	0.14*	1.00

* represents significant correlations at the 5% level.

Table 2.3, Panel B shows pairwise correlations for all variables used in Equation (2) (i.e., H1-H8). Variable descriptions can be found in Appendix 2A.

TABLE 2.4

The Relationship between Pre-GASB 54 Funds Balances and Future Fund Balance Flexibility

Panel A: Fund Balance Flexibility with Specific Pre-GASB 54 Categories

IVs\DVs	[1] *UnrestrictedPcnt$_t$*	[2] *UnassignedPcnt$_t$*	[3] *UnrestrictedPcnt$_t$*	[4] *UnassignedPcnt$_t$*	[5] *UnrestrictedPcnt$_t$*	[6] *UnassignedPcnt$_t$*
ReservedPC$_{(t-1)}$	**-18.832*** **	**-6.154**				
	(0.001)	**(0.390)**				
UnreservedDPC$_{(t-1)}$			**14.804****	**-23.605*****		
			(0.013)	**(0.001)**		
UnreservedUPC$_{(t-1)}$					**6.198**	**1.508**
					(0.411)	**(0.867)**
PropTaxPC$_t$	12.817	-18.359	-5.180	-13.322	-0.019	-22.511*
	(0.217)	(0.152)	(0.606)	(0.259)	(0.999)	(0.061)
ServFeesPC$_t$	3.100	1.855	4.039*	0.810	3.875	2.063
	(0.174)	(0.509)	(0.084)	(0.766)	(0.114)	(0.480)
DebtIssPC$_t$	-2.806	1.411	-5.557	2.834	-4.300	0.919
	(0.504)	(0.785)	(0.193)	(0.570)	(0.319)	(0.859)
IGRevPC$_t$	2.887	2.648	-2.917	5.836	-1.059	1.425
	(0.583)	(0.683)	(0.585)	(0.353)	(0.845)	(0.826)
Deficit$_{(t-1)}$	-3.318	-2.298	-1.753	-3.324	-2.567	-2.051
	(0.334)	(0.587)	(0.615)	(0.416)	(0.468)	(0.628)
LogPopul$_t$	-1.659	-6.550**	-0.683	-6.182*	-0.609	-6.211*
	(0.536)	(0.049)	(0.800)	(0.052)	(0.825)	(0.061)
IncomePC$_t$	0.256	-0.174	0.384*	-0.268	0.317	-0.154
	(0.218)	(0.497)	(0.071)	(0.281)	(0.140)	(0.547)
Unemp$_t$	-0.605	-1.277	-0.143	-1.355	-0.281	-1.170
	(0.665)	(0.460)	(0.920)	(0.415)	(0.846)	(0.499)
Educ$_t$	0.058	-0.072	0.012	0.043	0.063	-0.069
	(0.706)	(0.705)	(0.942)	(0.819)	(0.693)	(0.719)
CouncilMgr$_t$	-6.395	4.467	-5.713	4.596	-6.343	4.533
	(0.168)	(0.435)	(0.224)	(0.404)	(0.191)	(0.434)
Constant	67.201*	146.692***	49.522	143.136***	49.965	141.119***
	(0.070)	(0.002)	(0.183)	(0.001)	(0.188)	(0.002)
Observations	196	196	196	196	196	196
Adj R-squared	0.266	0.109	0.244	0.172	0.214	0.104

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 2.4, Panel A shows pooled OLS estimates for RQ1 for defined pre-GASB 54 fund balances (in time t-1) using Equation (1). The unit of observation is a municipality in Year 2011 (time t) with non-negative *unassigned* balances. The dependent variable within Columns [1], [3], and [5] is the ratio of *unrestricted* to total governmental fund balances (*UnrestrictedPcnt*), while the dependent variable within Columns [2], [4], and [6] is the ratio of *unassigned* to *unrestricted* governmental fund balances (*UnrestrictedPcnt*). All specifications include absorbed state indicator variables. Variable descriptions can be found in Appendix 2A.

Panel B: Fund Balance Flexibility with Non-Specific Unreserved Category

IVs\DVs	[1] *UnrestrictedPcnt$_t$*	[2] *UnassignedPcnt$_t$*
UnreservedNPC$_{(t-1)}$	**1.779**	**6.217**
	(0.784)	**(0.421)**
PropTaxPC$_t$	0.731	-21.587*
	(0.942)	(0.072)
ServFeesPC$_t$	3.027	0.857
	(0.247)	(0.783)
DebtIssPC$_t$	-4.340	0.938
	(0.316)	(0.855)
IGRevPC$_t$	-0.174	1.953
	(0.974)	(0.760)
Deficit$_{(t-1)}$	-2.621	-2.285
	(0.461)	(0.590)
LogPopul$_t$	-0.598	-6.016*
	(0.829)	(0.069)
IncomePC$_t$	0.307	-0.176
	(0.156)	(0.492)
Unemp$_t$	-0.312	-1.338
	(0.831)	(0.441)
Educ$_t$	0.075	-0.080
	(0.641)	(0.674)
CouncilMgr$_t$	-5.601	5.238
	(0.247)	(0.363)
Constant	50.530	140.775***
	(0.184)	(0.002)
Observations	196	196
Adj R-squared	0.211	0.108

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 2.4, Panel B shows pooled OLS estimates for RQ1 for "non-specific *unreserved*" pre-GASB 54 fund balances (in time t-1) using Equation (1). The unit of observation is a municipality in Year 2011 (time t) with non-negative *unassigned* balances. The dependent variable within Column [1] is the ratio of *unrestricted* to total governmental fund balances (*UnrestrictedPcnt*), while the dependent variable within Column [2] is the ratio of *unassigned* to *unrestricted* governmental fund balances (*UnrestrictedPcnt*). All specifications include absorbed state indicator variables. Variable descriptions can be found in Appendix 2A.

TABLE 2.5

The Relationship between Pre- and Post-GASB 54 Funds Balances

Panel A: Reserved Fund Balances to GASB 54 Fund Balances

IVs\DVs	[1] $NonspendablePC_t$	[2] $RestrictedPC_t$	[3] $CommittedPC_t$	[4] $AssignedPC_t$	[5] $UnassignedPC_t$	[6] $UnrestrictedPC_t$
***ReservedPC*$_{(t-1)}$**	**179.554*** **	**623.126*** **	**-0.746**	**86.796**	**-75.973**	**10.078**
	(0.000)	**(0.000)**	**(0.983)**	**(0.146)**	**(0.123)**	**(0.912)**
$PropTaxPC_t$	37.810	131.098	77.797	297.116***	122.893	497.805***
	(0.571)	(0.272)	(0.220)	(0.007)	(0.174)	(0.003)
$ServFeesPC_t$	-9.416	-45.710*	55.189***	-38.501	49.013**	65.700*
	(0.539)	(0.096)	(0.000)	(0.127)	(0.019)	(0.089)
$DebtIssPC_t$	-6.121	58.749	29.256	97.424**	33.099	159.779**
	(0.822)	(0.227)	(0.258)	(0.030)	(0.369)	(0.020)
$IGRevPC_t$	-1.481	92.409	2.348	134.305**	121.487***	258.140***
	(0.964)	(0.113)	(0.939)	(0.013)	(0.006)	(0.002)
$Deficit_{(t-1)}$	9.278	11.760	8.980	-44.441	-24.539	-60.000
	(0.680)	(0.769)	(0.673)	(0.228)	(0.419)	(0.288)
$LogPopul_t$	9.767	-25.005	7.944	-46.423*	-60.660***	-99.139**
	(0.565)	(0.409)	(0.622)	(0.097)	(0.009)	(0.021)
$IncomePC_t$	-0.540	-5.092**	0.736	-0.239	-0.711	-0.215
	(0.687)	(0.034)	(0.563)	(0.913)	(0.695)	(0.949)
$Unemp_t$	-5.563	-0.939	-7.690	17.597	0.897	10.805
	(0.551)	(0.955)	(0.385)	(0.251)	(0.943)	(0.645)
$Educ_t$	-1.378	4.240**	0.588	4.738***	3.732***	9.057***
	(0.180)	(0.021)	(0.545)	(0.005)	(0.008)	(0.001)
$CouncilMgr_t$	-37.536	8.346	-5.266	-4.436	-31.271	-40.973
	(0.192)	(0.870)	(0.846)	(0.925)	(0.420)	(0.569)
Constant	21.583	467.706	-24.483	172.245	640.951**	788.713
	(0.928)	(0.276)	(0.914)	(0.662)	(0.050)	(0.192)
Observations	228	228	228	228	228	228
Adj R-squared	0.176	0.530	0.391	0.085	0.130	0.275

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 2.5, Panel A shows pooled OLS estimates for RQ1 for *"reserved"* pre-GASB 54 fund balances (in time t-1) using Equation (1). The unit of observation is a municipality in Year 2011 (time t). The dependent variable within Columns [1], [2], [3], [4], [5], and [6] is *NonspendablePC*, *RestrictedPC*, *CommittedPC*, *AssignedPC*, *UnassignedPC*, and *UnrestrictedPC*, respectively. These variables represent the per capita governmental fund balances for *nonspendable*, *restricted*, *committed*, *assigned*, *unassigned*, and *unrestricted* categories, respectively. All specifications include absorbed state indicator variables. Variable descriptions can be found in Appendix 2A.

Panel B: Unreserved-Designated Fund Balances to GASB 54 Fund Balances

IVs\DVs	[1] $NonspendablePC_t$	[2] $RestrictedPC_t$	[3] $CommittedPC_t$	[4] $AssignedPC_t$	[5] $UnassignedPC_t$	[6] $UnrestrictedPC_t$
***UnreservedDPC*$_{(t-1)}$**	**77.190****	**324.162*****	**67.264****	**406.215*****	**96.258****	**569.736*****
	(0.039)	**(0.000)**	**(0.042)**	**(0.000)**	**(0.043)**	**(0.000)**
$PropTaxPC_t$	117.768*	377.680***	40.353	133.195	18.269	191.817
	(0.087)	(0.006)	(0.508)	(0.142)	(0.834)	(0.177)
$ServFeesPC_t$	-6.214	-31.477	58.925***	-16.485	54.811***	97.251***
	(0.703)	(0.332)	(0.000)	(0.444)	(0.009)	(0.004)
$DebtIssPC_t$	1.382	80.414	23.971	72.378*	19.904	116.253*
	(0.962)	(0.160)	(0.348)	(0.058)	(0.587)	(0.052)
$IGRevPC_t$	20.164	158.281**	-8.844	84.170*	91.152**	166.478**
	(0.555)	(0.021)	(0.771)	(0.063)	(0.037)	(0.019)
$Deficit_{(t-1)}$	10.509	19.518	13.164	-20.983	-17.070	-24.889
	(0.659)	(0.680)	(0.533)	(0.504)	(0.574)	(0.613)
$LogPopul_t$	5.359	-39.467	8.969	-43.060*	-56.874**	-90.964**
	(0.765)	(0.268)	(0.572)	(0.070)	(0.013)	(0.015)
$IncomePC_t$	-0.562	-4.834*	1.138	1.946	0.065	3.149
	(0.694)	(0.090)	(0.370)	(0.303)	(0.971)	(0.287)
$Unemp_t$	-8.746	-11.246	-6.791	20.889	3.932	18.030
	(0.374)	(0.565)	(0.436)	(0.108)	(0.753)	(0.375)
$Educ_t$	-2.217**	1.089	0.304	2.765*	3.539**	6.608***
	(0.043)	(0.615)	(0.753)	(0.055)	(0.011)	(0.004)
$CouncilMgr_t$	-33.820	24.775	-1.039	20.519	-24.751	-5.271
	(0.266)	(0.681)	(0.969)	(0.609)	(0.522)	(0.933)
Constant	115.256	772.533	-49.192	84.778	554.925*	590.510
	(0.648)	(0.125)	(0.826)	(0.799)	(0.086)	(0.259)
Observations	228	228	228	228	228	228
Adj R-squared	0.082	0.349	0.406	0.339	0.138	0.452

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 2.5, Panel B shows pooled OLS estimates for RQ1 for *"unreserved-designated"* pre-GASB 54 fund balances (in time t-1) using Equation (1). The unit of observation is a municipality in Year 2011 (time t). The dependent variable within Columns [1], [2], [3], [4], [5], and [6] is *NonspendablePC*, *RestrictedPC*, *CommittedPC*, *AssignedPC*, *UnassignedPC*, and *UnrestrictedPC*, respectively. These variables represent the per capita governmental fund balances for

nonspendable, *restricted*, *committed*, *assigned*, *unassigned*, and *unrestricted* categories, respectively. All specifications include absorbed state indicator variables. Variable descriptions can be found in Appendix 2A.

Panel C: Unreserved-Undesignated Fund Balances to GASB 54 Fund Balances

IVs\DVs	[1] *NonspendablePC$_t$*	[2] *RestrictedPC$_t$*	[3] *CommittedPC$_t$*	[4] *AssignedPC$_t$*	[5] *UnassignedPC$_t$*	[6] *UnrestrictedPC$_t$*
UnreservedUPC$_{(t-1)}$	**-72.604***	**190.723****	**65.333***	**31.772**	**207.391*****	**304.495*****
	(0.094)	**(0.033)**	**(0.090)**	**(0.636)**	**(0.000)**	**(0.003)**
PropTaxPC$_t$	159.361**	557.769***	78.003	356.605***	73.392	507.999***
	(0.016)	(0.000)	(0.182)	(0.001)	(0.365)	(0.001)
ServFeesPC$_t$	-13.917	-40.479	58.271***	-37.527	59.239***	79.982**
	(0.396)	(0.231)	(0.000)	(0.142)	(0.004)	(0.035)
DebtIssPC$_t$	7.496	105.310*	29.097	103.901**	27.060	160.058**
	(0.794)	(0.076)	(0.254)	(0.021)	(0.444)	(0.017)
IGRevPC$_t$	41.924	187.676***	-5.966	146.924***	81.026*	221.984***
	(0.221)	(0.008)	(0.844)	(0.006)	(0.055)	(0.005)
Deficit$_{(t-1)}$	7.603	-5.504	7.305	-46.980	-28.399	-68.074
	(0.750)	(0.911)	(0.730)	(0.206)	(0.333)	(0.216)
LogPopul$_t$	1.527	-37.252	10.380	-47.937*	-50.649**	-88.205**
	(0.933)	(0.317)	(0.517)	(0.089)	(0.023)	(0.035)
IncomePC$_t$	-1.123	-6.498**	0.829	-0.428	-0.219	0.182
	(0.429)	(0.027)	(0.510)	(0.846)	(0.900)	(0.956)
Unemp$_t$	-9.552	-16.029	-7.857	15.480	2.086	9.710
	(0.333)	(0.430)	(0.369)	(0.313)	(0.863)	(0.669)
Educ$_t$	-1.597	1.698	0.327	4.363**	3.113**	7.803***
	(0.146)	(0.452)	(0.736)	(0.011)	(0.022)	(0.002)
CouncilMgr$_t$	-33.540	-9.040	-9.874	-7.225	-45.435	-62.534
	(0.273)	(0.886)	(0.716)	(0.879)	(0.228)	(0.375)
Constant	174.927	805.399	-53.688	216.997	498.457	661.766
	(0.491)	(0.125)	(0.812)	(0.583)	(0.112)	(0.259)
Observations	228	228	228	228	228	228
Adj R-squared	0.074	0.294	0.401	0.074	0.189	0.313

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 2.5, Panel C shows pooled OLS estimates for RQ1 for *"unreserved-undesignated"* pre-GASB 54 fund balances (in time t-1) using Equation (1). The unit of observation is a municipality in Year 2011 (time t). The dependent variable within Columns [1], [2], [3], [4], [5], and [6] is *NonspendablePC*, *RestrictedPC*, *CommittedPC*, *AssignedPC*, *UnassignedPC*, and *UnrestrictedPC*, respectively. These variables represent the per capita governmental fund balances for

nonspendable, *restricted*, *committed*, *assigned*, *unassigned*, and *unrestricted* categories, respectively. All specifications include absorbed state indicator variables. Variable descriptions can be found in Appendix 2A.

Panel D: Unreserved-Nonspecific Fund Balances to GASB 54 Fund Balances

IVs\DVs	[1] $NonspendablePC_t$	[2] $RestrictedPC_t$	[3] $CommittedPC_t$	[4] $AssignedPC_t$	[5] $UnassignedPC_t$	[6] $UnrestrictedPC_t$
***UnreservedNPC*$_{(t-1)}$**	**-58.931**	**60.099**	**103.026*** **	**6.535**	**191.688*** **	**301.249*** **
	(0.171)	**(0.501)**	**(0.006)**	**(0.922)**	**(0.000)**	**(0.003)**
$PropTaxPC_t$	154.969**	560.974***	86.355	356.833***	87.994	531.182***
	(0.020)	(0.000)	(0.135)	(0.001)	(0.281)	(0.001)
$ServFeesPC_t$	-1.216	-58.928	38.967**	-40.053	19.280	18.193
	(0.945)	(0.109)	(0.012)	(0.145)	(0.376)	(0.654)
$DebtIssPC_t$	5.326	107.706*	32.794	104.179**	34.073	171.046**
	(0.854)	(0.074)	(0.194)	(0.021)	(0.339)	(0.011)
$IGRevPC_t$	31.045	213.364***	5.350	151.097***	112.815***	269.262***
	(0.360)	(0.003)	(0.856)	(0.005)	(0.008)	(0.001)
$Deficit_{(t-1)}$	6.710	-1.576	7.273	-46.268	-26.239	-65.233
	(0.779)	(0.975)	(0.727)	(0.213)	(0.374)	(0.236)
$LogPopul_t$	2.576	-42.630	10.822	-48.929*	-52.997**	-91.105**
	(0.887)	(0.257)	(0.493)	(0.082)	(0.018)	(0.029)
$IncomePC_t$	-0.905	-6.882**	0.533	-0.485	-0.888	-0.840
	(0.526)	(0.021)	(0.668)	(0.826)	(0.613)	(0.798)
$Unemp_t$	-8.571	-16.700	-9.746	15.439	-1.186	4.507
	(0.388)	(0.418)	(0.261)	(0.316)	(0.923)	(0.843)
$Educ_t$	-1.701	2.273	0.260	4.470***	3.335**	8.065***
	(0.121)	(0.317)	(0.785)	(0.009)	(0.014)	(0.002)
$CouncilMgr_t$	-43.276	9.127	2.799	-4.471	-15.797	-17.469
	(0.159)	(0.886)	(0.917)	(0.925)	(0.676)	(0.804)
Constant	149.353	882.737*	-36.038	230.253	569.002*	763.217
	(0.557)	(0.096)	(0.871)	(0.559)	(0.071)	(0.192)
Observations	228	228	228	228	228	228
Adj R-squared	0.069	0.277	0.417	0.073	0.180	0.313

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 2.5, Panel D shows pooled OLS estimates for RQ1 for "non-specific *unreserved*" pre-GASB 54 fund balances (in time t-1) using Equation (1). The unit of observation is a municipality in Year 2011 (time t). The dependent variable within Columns [1], [2], [3], [4], [5], and [6] is *NonspendablePC*, *RestrictedPC*, *CommittedPC*, *AssignedPC*, *UnassignedPC*, and *UnrestrictedPC*, respectively. These variables represent the per capita governmental fund balances for

nonspendable, *restricted*, *committed*, *assigned*, *unassigned*, and *unrestricted* categories, respectively. All specifications include absorbed state indicator variables. Variable descriptions can be found in Appendix 2A.

TABLE 2.6

The Determinants of GASB 54 Fund Balance Flexibility

IVs\DVs	[1] *UnrestrictedPcnt$_t$*	[2] *UnassignedPcnt$_t$*
PropTaxPC$_t$	**-1.639**	**-21.105*** **
	(0.758)	**(0.004)**
ServFeesPC$_t$	**4.255***	**4.178**
	(0.097)	**(0.237)**
DebtIssPC$_t$	**-0.520**	**-0.735**
	(0.726)	**(0.681)**
IGRevPC$_t$	**0.318**	**1.592**
	(0.926)	**(0.683)**
Deficit$_{(t-1)}$	**-0.243**	**-0.285**
	(0.857)	**(0.868)**
LogPopul$_t$	**-3.704****	**-5.998****
	(0.031)	**(0.014)**
IncomePC$_t$	**0.251****	**-0.089**
	(0.021)	**(0.575)**
Unemp$_t$	**-1.243****	**-0.541**
	(0.026)	**(0.536)**
Educ$_t$	0.184	-0.299**
	(0.133)	(0.016)
CouncilMgr$_t$	-0.155	3.172
	(0.958)	(0.423)
2013.year	0.534	-1.411
	(0.600)	(0.356)
2014.year	-2.463*	-0.315
	(0.089)	(0.889)
2015.year	-2.149	-1.469
	(0.297)	(0.652)
Constant	84.799***	140.323***
	(0.000)	(0.000)
Observations	712	712
Adj R-squared	0.373	0.217

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 2.6 shows pooled OLS estimates in H1-H8 for determinants of GASB 54 fund balance ratios (in time t) using Equation (2). The unit of observation is a municipality-year with non-negative *unassigned* balances. The dependent variable within Column [1] is the ratio of *unrestricted* to total governmental fund balances (*UnrestrictedPcnt*), while the dependent variable within Column [2] is the ratio of *unassigned* to *unrestricted* governmental fund balances (*UnrestrictedPcnt*). All specifications include yearly indicator variables, absorbed state indicator variables, and municipality-clustered standard errors. Variable descriptions can be found in Appendix 2A.

TABLE 2.7

The Determinants of GASB 54 Fund Balances

IVs\DVs	[1] *NonspendablePC$_t$*	[2] *RestrictedPC$_t$*	[3] *CommittedPC$_t$*	[4] *AssignedPC$_t$*	[5] *UnassignedPC$_t$*	[6] *UnrestrictedPC$_t$*
PropTaxPC$_t$	**63.153**	**159.319***	**279.506*****	**208.599**	**108.567**	**596.672*****
	(0.144)	**(0.091)**	**(0.002)**	**(0.170)**	**(0.325)**	**(0.004)**
ServFeesPC$_t$	**8.966**	**80.210**	**43.457****	**33.549**	**102.965****	**179.971****
	(0.584)	**(0.117)**	**(0.050)**	**(0.625)**	**(0.011)**	**(0.015)**
DebtIssPC$_t$	**9.885**	**22.791**	**32.866**	**-45.337***	**28.610**	**16.140**
	(0.267)	**(0.403)**	**(0.199)**	**(0.082)**	**(0.472)**	**(0.749)**
IGRevPC$_t$	**16.788****	**103.424*****	**18.702**	**89.450***	**152.098*****	**260.250*****
	(0.049)	**(0.002)**	**(0.541)**	**(0.054)**	**(0.006)**	**(0.002)**
Deficit$_{(t-1)}$	**-12.577****	**-14.973**	**-4.358**	**-4.545**	**-27.552****	**-36.455***
	(0.030)	**(0.401)**	**(0.661)**	**(0.657)**	**(0.031)**	**(0.063)**
LogPopul$_t$	**-5.294**	**17.382**	**9.035**	**-23.428**	**-59.237****	**-73.630****
	(0.535)	**(0.473)**	**(0.484)**	**(0.100)**	**(0.011)**	**(0.042)**
IncomePC$_t$	**-1.388***	**-2.553**	**2.166**	**-1.377**	**-0.632**	**0.157**
	(0.063)	**(0.130)**	**(0.129)**	**(0.441)**	**(0.661)**	**(0.956)**
Unemp$_t$	**1.453**	**15.262**	**-6.983**	**4.362**	**-7.355**	**-9.976**
	(0.683)	**(0.238)**	**(0.277)**	**(0.522)**	**(0.216)**	**(0.417)**
Educ$_t$	0.494	3.598**	0.172	4.203**	2.312*	6.688**
	(0.376)	(0.016)	(0.825)	(0.036)	(0.072)	(0.024)
CouncilMgr$_t$	-21.087	47.043	49.377	3.711	26.689	79.777
	(0.274)	(0.190)	(0.153)	(0.901)	(0.436)	(0.193)
2013.year	3.485	-13.872	2.515	16.761	30.613***	49.888**
	(0.521)	(0.349)	(0.795)	(0.207)	(0.007)	(0.011)
2014.year	9.562	22.395	-10.575	14.080	10.129	13.634
	(0.238)	(0.383)	(0.514)	(0.473)	(0.404)	(0.621)
2015.year	17.803*	33.083	-17.644	34.844	12.907	30.107
	(0.076)	(0.366)	(0.420)	(0.212)	(0.487)	(0.469)
Constant	121.443	-136.615	-222.125	137.184	650.223**	565.282
	(0.236)	(0.691)	(0.251)	(0.422)	(0.013)	(0.172)
Observations	792	792	792	792	792	792
Adj R-squared	0.194	0.334	0.421	0.151	0.287	0.427

*, **, and *** represent significant coefficients at $p < 0.10$, 0.05, and 0.01, respectively.

Table 2.7 shows pooled OLS estimates in H1-H8 for determinants of GASB 54 fund balances (in time t) using Equation (2). The unit of observation is a municipality-year. The dependent variable within Columns [1], [2], [3], [4], [5], and [6] is *NonspendablePC*, *RestrictedPC*, *CommittedPC*, *AssignedPC*, *UnassignedPC*, and *UnrestrictedPC*, respectively. These variables represent the per capita governmental fund balances for *nonspendable*, *restricted*, *committed*, *assigned*, *unassigned*, and *unrestricted* categories, respectively. All specifications include yearly indicator variables, absorbed state indicator variables, and municipality-clustered standard errors. Variable descriptions can be found in Appendix 2A.

TABLE 2.8

The Determinants of GFOA Fund Balance Reserve Recommendations

IVs\DVs	[1] $GFOARecRev_t$	[2] $GFOARecExp_t$
PropTaxPC$_t$	**0.156**	**0.192**
	(0.214)	**(0.130)**
ServFeesPC$_t$	**-0.127****	**-0.148*****
	(0.018)	**(0.007)**
DebtIssPC$_t$	**-0.017**	**-0.062**
	(0.650)	**(0.103)**
IGRevPC$_t$	**-0.041**	**-0.047**
	(0.509)	**(0.459)**
Deficit$_{(t-1)}$	**-0.048**	**-0.055***
	(0.112)	**(0.077)**
LogPopul$_t$	**-0.028**	**-0.017**
	(0.504)	**(0.718)**
IncomePC$_t$	**0.007*****	**0.006*****
	(0.003)	**(0.007)**
Unemp$_t$	**0.011**	**0.018**
	(0.442)	**(0.203)**
Educ$_t$	0.007***	0.008***
	(0.006)	(0.003)
CouncilMgr$_t$	0.143**	0.142**
	(0.044)	(0.043)
2013.year	-0.002	0.028
	(0.937)	(0.272)
2014.year	-0.014	0.010
	(0.702)	(0.767)
2015.year	0.023	0.034
	(0.659)	(0.520)
Constant	0.039	-0.120
	(0.938)	(0.830)
Observations	792	792
Adj R-squared	0.254	0.256

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 2.8 shows linear probability model estimates in H1-H8 for determinants of GFOA reserve recommendations (in time t) using Equation (2). The unit of observation is a municipality-year. The dependent variable within Column [1] is an indicator variable equal to one if the *unrestricted* governmental funds balance is greater or equal to two months' average of total annual revenues, otherwise equal to zero (*GFOARecRev*), while the dependent variable within Column [2] is an indicator variable equal to one if the *unrestricted* governmental funds balance is greater or equal to two months' average of total annual expenditures, otherwise equal to zero (*GFOARecExp*). All specifications include yearly indicator variables, absorbed state indicator variables, and municipality-clustered standard errors. Variable descriptions can be found in Appendix 2A.

TABLE 2.9

Determinants of GASB 54 Fund Balance Flexibility with Separate Intergovernmental Revenues

Panel A: Determinants of Fund Balance Ratios

IVs\DVs	[1] *UnrestrictedPcnt$_t$*	[2] *UnassignedPcnt$_t$*
PropTaxPC$_t$	**-1.507**	**-16.951****
	(0.795)	**(0.025)**
ServFeesPC$_t$	**4.271**	**5.129**
	(0.105)	**(0.148)**
DebtIssPC$_t$	**-0.530**	**-0.975**
	(0.724)	**(0.584)**
FedIGRevPC$_t$	**-0.174**	**-19.466**
	(0.985)	**(0.122)**
StIGRevPC$_t$	**0.516**	**8.294***
	(0.924)	**(0.097)**
Deficit$_{(t-1)}$	**-0.251**	**-0.513**
	(0.853)	**(0.767)**
LogPopul$_t$	**-3.717****	**-6.186****
	(0.032)	**(0.012)**
IncomePC$_t$	**0.250****	**-0.101**
	(0.021)	**(0.524)**
Unemp$_t$	**-1.245****	**-0.653**
	(0.027)	**(0.459)**
Educ$_t$	0.183	-0.326***
	(0.141)	(0.008)
CouncilMgr$_t$	-0.131	4.350
	(0.965)	(0.266)
2013.year	0.534	-1.429
	(0.601)	(0.349)
2014.year	-2.469*	-0.767
	(0.095)	(0.736)
2015.year	-2.165	-2.452
	(0.310)	(0.459)
Constant	84.926***	141.747***
	(0.000)	(0.000)
Observations	712	712
Adj R-squared	0.372	0.224

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 2.9, Panel A shows pooled OLS estimates in H1-H8 for determinants of GASB 54 fund balance ratios (in time t) using Equation (2) and separate intergovernmental revenue types. The unit of observation is a municipality-year with non-negative *unassigned* balances. The dependent variable within Column [1] is the ratio of *unrestricted* to total governmental fund balances (*UnrestrictedPcnt*), while the dependent variable within Column [2] is the ratio of *unassigned* to *unrestricted* governmental fund balances (*UnrestrictedPcnt*). All specifications include yearly

indicator variables, absorbed state indicator variables, and municipality-clustered standard errors. Variable descriptions can be found in Appendix 2A.

Panel B: Determinants of Fund Balances

IVs\DVs	[1] *NonspendablePC$_t$*	[2] *RestrictedPC$_t$*	[3] *CommittedPC$_t$*	[4] *AssignedPC$_t$*	[5] *UnassignedPC$_t$*	[6] *UnrestrictedPC$_t$*
PropTaxPC$_t$	**59.357**	**187.390****	**275.198*****	**189.499**	**117.373**	**582.070*****
	(0.177)	**(0.049)**	**(0.002)**	**(0.195)**	**(0.304)**	**(0.006)**
ServFeesPC$_t$	**7.262**	**83.396**	**42.312***	**21.365**	**99.580*****	**163.257****
	(0.649)	**(0.107)**	**(0.056)**	**(0.730)**	**(0.008)**	**(0.014)**
DebtIssPC$_t$	**9.779**	**20.899**	**32.800**	**-46.148***	**26.646**	**13.298**
	(0.272)	**(0.446)**	**(0.203)**	**(0.080)**	**(0.500)**	**(0.794)**
FedIGRevPC$_t$	**46.646**	**-34.045**	**45.826**	**270.662***	**147.951**	**464.439***
	(0.296)	**(0.753)**	**(0.627)**	**(0.085)**	**(0.218)**	**(0.079)**
StIGRevPC$_t$	**10.326**	**166.356*****	**9.733**	**64.337**	**178.624*****	**252.694*****
	(0.399)	**(0.004)**	**(0.810)**	**(0.208)**	**(0.004)**	**(0.002)**
Deficit$_{(t-1)}$	**-12.537****	**-17.079**	**-4.310**	**-4.379**	**-29.164****	**-37.853***
	(0.032)	**(0.334)**	**(0.664)**	**(0.671)**	**(0.023)**	**(0.056)**
LogPopul$_t$	**-5.677**	**10.950**	**8.920**	**-26.901***	**-65.904*****	**-83.885****
	(0.517)	**(0.667)**	**(0.492)**	**(0.090)**	**(0.005)**	**(0.022)**
IncomePC$_t$	**-1.386***	**-2.576**	**2.161**	**-1.326**	**-0.647**	**0.188**
	(0.063)	**(0.125)**	**(0.128)**	**(0.439)**	**(0.649)**	**(0.945)**
Unemp$_t$	**1.662**	**14.888**	**-6.792**	**5.631**	**-6.890**	**-8.050**
	(0.639)	**(0.246)**	**(0.293)**	**(0.381)**	**(0.246)**	**(0.506)**
Educ$_t$	0.539	3.551**	0.215	4.473**	2.442*	7.130**
	(0.332)	(0.022)	(0.787)	(0.035)	(0.069)	(0.022)
CouncilMgr$_t$	-22.773	55.128	47.808	-6.349	27.167	68.626
	(0.234)	(0.139)	(0.179)	(0.846)	(0.449)	(0.291)
2013.year	3.771	-13.601	2.790	18.451	31.919***	53.160***
	(0.494)	(0.366)	(0.774)	(0.179)	(0.006)	(0.009)
2014.year	10.715	20.510	-9.422	20.666	12.923	24.167
	(0.203)	(0.432)	(0.567)	(0.315)	(0.305)	(0.415)
2015.year	19.807*	27.978	-15.601	46.089	16.255	46.743
	(0.061)	(0.457)	(0.486)	(0.123)	(0.388)	(0.302)
Constant	126.447	-77.609	-218.608	173.301	717.743***	672.436
	(0.223)	(0.825)	(0.265)	(0.328)	(0.007)	(0.111)
Observations	792	792	792	792	792	792
Adj R-squared	0.193	0.338	0.420	0.155	0.284	0.426

*, **, and *** represent significant coefficients at $p < 0.10$, 0.05, and 0.01, respectively.

Table 2.9, Panel B shows pooled OLS estimates in H1-H8 for determinants of GASB 54 fund balances (in time t) using Equation (2) and separate intergovernmental revenue types. The unit of observation is a municipality-year. The dependent variable within Columns [1], [2], [3], [4], [5], and [6] is *NonspendablePC*, *RestrictedPC*, *CommittedPC*, *AssignedPC*, *UnassignedPC*, and *UnrestrictedPC*, respectively. These variables represent the per capita governmental fund balances for *nonspendable*, *restricted*, *committed*, *assigned*, *unassigned*, and *unrestricted* categories, respectively. All specifications include yearly indicator variables, absorbed state indicator variables, and municipality-clustered standard errors. Variable descriptions can be found in Appendix 2A.

APPENDIX 2A

Variable Descriptions

Variable	Description	Data Source
Dependent Variables		
FBPcnt	Represents ratios of a subset of GASB 54 governmental fund balances (i.e., *UnrestrictedPcnt* or *UnassignedPcnt*)	CAFR-governmental funds balance sheet
UnrestrictedPcnt	Ratio of unrestricted (combined committed, assigned, and unassigned) governmental fund balance to total governmental fund balance	CAFR-governmental funds balance sheet
UnassignedPcnt	Ratio of unassigned governmental fund balance to unrestricted (combined committed, assigned, and unassigned) governmental fund balance	CAFR-governmental funds balance sheet
FB	Represents subsets of GASB 54 fund balances per capita at the total governmental funds level (i.e., *NonspendablePC*, *RestrictedPC*, *CommittedPC*, *AssignedPC*, *UnassignedPC*, and *UnrestrictedPC*)	CAFR-governmental funds balance sheet
NonspendablePC	Nonspendable governmental fund balance per capita from total governmental funds	CAFR-governmental funds balance sheet
RestrictedPC	Restricted governmental fund balance per capita from total governmental funds	CAFR-governmental funds balance sheet
CommittedPC	Committed governmental fund balance per capita from total governmental funds	CAFR-governmental funds balance sheet
AssignedPC	Assigned governmental fund balance per capita from total governmental funds	CAFR-governmental funds balance sheet
UnassignedPC	Unassigned governmental fund balance per capita from total governmental funds	CAFR-governmental funds balance sheet
UnrestrictedPC	Unrestricted (combined committed, assigned, and unassigned) governmental fund balance per capita from total governmental funds	CAFR-governmental funds balance sheet
GFOARecRev	Indicator variable equal to one if the unrestricted (combined committed, assigned, and unassigned) governmental fund balance is greater than or equal to total annual revenues divided by six, otherwise equal to zero	CAFR-governmental funds balance sheet and U.S. Census Bureau government finance data via Pierson et al. (2015)
GFOARecExp	Indicator variable equal to one if the unrestricted (combined committed, assigned, and unassigned) governmental fund balance is greater than or equal to total annual expenditures divided by six, otherwise equal to zero	CAFR-governmental funds balance sheet and U.S. Census Bureau government finance data via Pierson et al. (2015)

Independent Variables		
PreFB	Represents subsets of Year 2010 pre-GASB 54 fund balances in thousands of dollars per capita from total governmental funds (i.e., *ReservedPC*, *UnreservedDPC*, *UnreservedUPC*, and *UnreservedNPC*)	CAFR-governmental funds balance sheet
ReservedPC	Year 2010 reserved governmental fund balance in thousands of dollars per capita from total governmental funds	CAFR-governmental funds balance sheet
UnreservedDPC	Year 2010 unreserved-designated governmental fund balance in thousands of dollars per capita from total governmental funds	CAFR-governmental funds balance sheet
UnreservedUPC	Year 2010 unreserved-undesignated governmental fund balance in thousands of dollars per capita from total governmental funds	CAFR-governmental funds balance sheet
UnreservedNPC	Year 2010 non-specific unreserved governmental fund balance in thousands of dollars per capita from total governmental funds	CAFR-governmental funds balance sheet
PropTaxPC	Total property tax revenues in thousands of dollars per capita	U.S. Census Bureau government finance data via Pierson et al. (2015)
ServFeesPC	Total general service charges in thousands of dollars per capita	U.S. Census Bureau government finance data via Pierson et al. (2015)
DebtIssPC	Total new long-term debt issued in thousands of dollars per capita	U.S. Census Bureau government finance data via Pierson et al. (2015)
IGRevPC	Total intergovernmental revenues in thousands of dollars per capita	U.S. Census Bureau government finance data via Pierson et al. (2015)
FedIGRevPC	Total federal intergovernmental revenues in thousands of dollars per capita	U.S. Census Bureau government finance data via Pierson et al. (2015)
StIGRevPC	Total state intergovernmental revenues in thousands of dollars per capita	U.S. Census Bureau government finance data via Pierson et al. (2015)
Deficit	Indicator variable equal to one if the municipality has greater governmental funds expenditures over revenues in the prior year (after other financing sources/uses), otherwise equal to zero	CAFR-statement of revenues, expenditures, and changes in fund balances for governmental funds
LogPopul	The natural logarithm of a municipality's population	U.S. Census Bureau
IncomePC	The county-level per capita income for a municipality in thousands of dollars	American Community Survey from the U.S. Census Bureau

Unemp	The county-level unemployment percentage for a municipality	Local Area Unemployment Statistics from the Bureau of Labor Statistics
Educ	The county-level percentage of citizens holding a bachelor's degree for a municipality	American Community Survey from the U.S. Census Bureau
CouncilMgr	Indicator variable equal to one if the municipality incorporates a council-manager government form, otherwise equal to zero	ICMA (2011) Municipal Form of Government Survey

CHAPTER 3

Outcomes of GASB 54 Governmental Fund Balances

ABSTRACT: Stakeholders care that governments act both as responsible financial stewards and maintain sufficient resources to meet ongoing obligations and plan for possible contingencies. One source of information to assess a government's financial condition is in the governmental fund balance amounts. External parties or governments themselves may react differently depending on resource constraint restrictiveness in certain fund balance categories. This study investigates the financial outcomes and updated fund balance reporting under GASB 54. The results indicate that flexible governmental fund balances (e.g., "unrestricted" or "unassigned" balances) are negatively related to future bond true interest costs and positively related to future bond ratings. Changes in flexible fund balances (especially "unrestricted" balances) are positively associated with future operating expenditure changes, but are negatively associated with property tax, service charge, and specific intergovernmental revenue changes. These findings suggest that fund balance flexibility information influences decisions of both external parties and municipalities. This study extends prior research by studying the effect of updated GASB 54-based fund balance classifications on future debt and spending or revenue characteristics.

INTRODUCTION

State and local governments' fund financial statements help demonstrate the financial stewardship of governmental management. Finance officers are accountable to efficiently utilize revenues to fulfill service expectations. The fund financial statements are also one information source to evaluate if sufficient resources are being maintained (Kloha, Weissert, and Kleine 2005). The fund balance updates required by Governmental Accounting Standards Board Statement No. 54 (GASB 54) allows stakeholders to better utilize fund financial statements to assess a government's fiscal condition and subsequently improve decision-making (GASB 2009). Fund balances represent a government's residual funding after subtracting their liabilities from their assets (similar to "stockholders' equity" in the corporate sector). Even though these fund balances are often considered as budgetary slack (i.e., a safety net), the government itself or an external party may impose restrictions on the use of certain funds. Thereby, the degree of "spending flexibility" may be an important factor in analyzing the financial condition of a state or local government. My study analyzes multiple outcomes of GASB 54-based fund balances for municipalities. More specifically, I examine if municipalities with greater GASB 54-defined flexible governmental fund balances are associated with future bond interest costs, bond ratings, or expenditure/revenue compositions.

GASB 54 updated the previous fund balance categories (*reserved*, *unreserved-designated*, and *unreserved-undesignated*) to five updated fund balance categories listed in reverse order of spending flexibility (*nonspendable*, *restricted*, *committed*, *assigned*, and *unassigned*) (GASB 2009). These classifications are designed to be more clearly defined based on resource constraints and spending flexibility to encourage consistent reporting application

(Brooks and Mead 2010). Financial reporting users are able to gain improved information content from the GASB 54 fund balances to analyze ratios of *unassigned* fund balances that measure the amount of reserves maintained to cope with contingencies (Gauthier 2009; Chase and Roybark 2013; Waymire, Sohl, and Howard 2015). The GFOA accordingly recommends holding at least two months of operating revenues or expenditures in the general fund as reserves (GFOA 2015). Governments with greater amounts of flexible fund balances can demonstrate that they are sustainable and can handle the effects of unforeseen circumstances.

Research has found that the level of *unreserved* fund balances impacts its future expenditures (Hendrick 2006) and signals fiscal stress (Modlin and Stewart 2014; Gorina, Joffe, and Maher 2018). Higher levels of such flexible fund balance types also have benefits in limiting expenditure gaps (Hou 2003), reducing exposure to service cuts (Reitano 2017), and funding pensions better (Chaney, Copley, and Stone 2002). These findings suggest that governments' future financial decisions are influenced by their current fund balance compositions. External stakeholders are also found to react accordingly to governments with higher (or lower) levels of flexible fund balances. Governments with higher amounts of *unreserved* fund balances are found to require lower bond yields (Amrahova, Bluestone, Hildreth, and Larson 2017), pay lower interest costs (Reck and Wilson 2014), and gain higher bond ratings (Marlowe 2011). This suggests that municipal analysts and the bond market perceive governments with higher levels of flexible fund balances as financially healthier and at a lower risk of defaulting on their upcoming debt obligations.

Prior research guides my predictions on several outcomes related to flexible fund balances. As municipalities with greater (lower) amounts of *unreserved* fund balances reflect lower (higher) credit risk (e.g., Apostolou, Apostolou, and Dorminey 2014; Reck and Wilson

2014), I anticipate municipalities with higher (lower) amounts of flexible fund balances to face lower (higher) future bond interest costs. Moreover, bond rating agencies likely recognize governments having larger *unreserved* fund balances as more likely to fulfill their debt obligations via sufficient budgetary slack (e.g., Marlowe 2011). Thus, I expect a positive relationship between flexible fund balances and future municipality bond ratings.

Municipal governments with lower *unreserved* fund balances are found to lower future expenditures (e.g., Hendrick 2006), experience service or personnel cutbacks (Jimenez 2014), and spend less on flexible savings or investments (e.g., Su 2016). As well, capital spending decisions may be influenced by the level of discretionary spending resources (Hendrick 2006). Therefore, I examine associations between flexible fund balances and future operating expenditure or capital outlay categories. Since different taxes, fees, and other funding sources are found to be affected by budgetary slack, I also assess if flexible fund balances impact future revenue sources (i.e., property tax, service fees, debt proceeds, and intergovernmental revenues) (Jimenez 2014; Modlin and Stewart 2014; Zhang and Rich 2016).

As my paper's purpose is to assess the outcomes of the updated fund balance classifications, I collect a sample of municipal comprehensive annual financial reports (CAFRs) that report their fund balances under the guidance of GASB 54 (specifically, having fiscal years ending 2011-2015). My analyzed sample consists of 540 municipality-year observations having the required data. For my bond outcomes hypotheses, 232 future individual general obligation bond issuances occurred for my municipality sample during the period.

My pooled OLS regression models test how flexible governmental fund balance amounts impact each of the hypothesized future bond outcomes and assesses my research questions on future revenue or expenditure components. I find evidence that both higher per capita

unrestricted (i.e., combined *committed*, *assigned*, and *unassigned*) and *unassigned* fund balances lead to lower future true interest costs. The results also show a positive relationship between *unassigned* per capita balances and future bond ratings. These findings suggest that municipal analysts and bond rating agencies may use the new fund balance category information to assess default risk for subsequent bond decisions.

My analyses also show some evidence of a positive association between changes in *unrestricted* balances and changes in future operating expenditures, and a negative association between changes in *unassigned* balances and changes in future capital outlays. This could indicate that growth (decline) of flexible fund balance types impacts operating expenditures instead of potentially inelastic capital spending. Additionally, negative relationships between per capita *unrestricted* fund balance growth and changes in both future property tax revenues or service fees provides evidence that municipalities adjust their own-source revenues in response to fund reserve changes. This could be motivation for municipalities to lower citizens' future tax burden when excess flexible funds are present, or raise extra funding when reserves are lowered. Long-term debt proceed changes do not appear to be influenced by flexible balance changes suggesting that debt is used for other purposes than stabilizing financial condition. My findings also demonstrate that both flexible fund balance change measures negatively predict federal intergovernmental revenue changes, signaling that financial condition may be a significant factor in higher government aid decisions (i.e., needs-based considerations). Intergovernmental revenue results are weaker when measured at the state-level.

Several contributions are made in this paper. First, I investigate a broad range of fund balance outcomes including future governmental and bond-related decisions (e.g., Hendrick 2006; Reck and Wilson 2014). Second, I utilize the updated GASB 54 fund balance categories

based on fund balance flexibility to test each outcome. As GASB 54 classifications promote more consistent application of governments' funds, my analyses of outcomes should be less noisy compared to prior studies using pre-GASB 54 measures (e.g., Hou 2003; Marlowe 2011). Last, my specifications utilize fund balance amounts based on the governmental fund balance sheet that incorporates all governmental fund activities. As such, these measures may add incremental information about a municipal government's overall financial condition beyond what measures of only the general fund may provide (e.g., Marlowe 2009).

The remainder of this chapter is organized as follows. The subsequent section offers a literature review that discusses the content and strategies surrounding GASB 54's updated fund balances and examines research providing evidence of fund balance measures associated with several important outcomes. Afterward, my hypotheses are developed. Next, I explain my sample and method of analysis. The results are reported, and then I give my concluding remarks.

LITERATURE REVIEW

Fund Balance Standards and Expectations

Fund balances represent the residual amounts on the governmental balance sheet after taking the difference of assets and liabilities. National Council on Governmental Accounting (NCGA) Statement No. 1 offered initial guidance on how fund balances should be classified (NCGA 1979). GASB Statement No. 34 (GASB 34) retained NCGA's suggested three fund balance categories (in reverse order of spending flexibility: *reserved*, *unreserved-designated*, and *unreserved-undesignated*) despite updating the financial reporting model for state and local

governments (GASB 1999, Kravchuk and Voorhees 2001).[21] Unfortunately, the NCGA's outdated and vague fund balance category definitions led to inconsistencies in fund balance application in governments (Brooks and Mead 2010). Additionally, the fund balances could shift categories if allocated to differently purposed funds (GASB 2006).[22]

Acknowledging the confusion and reporting concerns regarding the NCGA-based fund balances, GASB initiated a project to improve fund balance reporting that resulted with the publication of GASB 54 (GASB 2009). GASB 54 was suggested to reduce the uncertainty about fund categorization by providing clearly defined criteria based on the imposed resource constraints and spending flexibility and would result in reporting that improves the informational usefulness for statement users (Chase and Roybark 2013). From the three prior fund balance classifications, GASB 54 mandates five new categories. In reverse order of spending flexibility, these new classifications are *nonspendable*, *restricted*, *committed*, *assigned*, and *unassigned*.[23] *Committed*, *assigned*, and *unassigned* fund balances represent the updated *"unrestricted"* fund balances per GASB 54 (i.e., relatively "flexible" balances compared to *nonspendable* and *restricted* types). State and local governments are required to report GASB 54 fund balance classifications for fiscal years beginning after June 15, 2010. See Figure 2.2 for an example of a governmental funds balance sheet before and after GASB 54 (City of Harrisonburg 2010; 2011).

[21] R*eserved* fund balances are generally defined as amounts restricted for use in specific purposes, while *unreserved* fund balances are generally defined as amounts freely available for appropriation or expenditures. Although, governments have the option to *designate* amounts from *unreserved* balances that are intended, but not legally restricted, for a certain purpose (Tyer 1993).

[22] Prior to GASB 54, if school repair funds were put into a "general fund," the amounts would be considered *reserved*. If those funds were put into a "school construction fund," the amounts would be considered *unreserved*.

[23] According to GASB 54, *nonspendable* fund balances are amounts that are not spendable in that form or that must be maintained in perpetuity. *Restricted* fund balances are amounts limited to spending on specific purposes as required by external parties or by the government's constitutional guidance. *Committed* fund balances are amounts that are limited to specific purposes due to formal action by the government's highest decision-making authority. *Assigned* fund balances are amounts not applicable to the other fund balance categories but are "intended" for a specific purpose. *Unassigned* fund balances are amounts inside of the general fund that do not fall under the other fund balance categories (i.e., amounts that are freely usable for any purpose) (GASB 2009).

In regards to reporting usefulness, Waymire et al. (2015) suggest that citizens or other financial statement users can take the ratio of *unassigned* fund balance to annual expenditures to assess how many months of reserves are amassed in case of financial hardship. *Unassigned* balance acts as an accessible resource to cover potential economic uncertainty (Arapis and Reitano 2017). Accordingly, the *unassigned* fund balance appears to be preferred in evaluating a state or local government's ability to cover upcoming obligations. Other fund balance classifications could be interesting to financial statement users to assess the amounts and compliance with various legal restrictions.

An overarching goal of fund balance policy is to "maintain adequate resources to cope with contingencies" (Gauthier 2009). A state or local government may either hold reserve funds (i.e., financial slack) through a mandated contingency fund (e.g., budget stabilization fund) or simply maintain an *unreserved* fund balance (Tyer 1993). The GFOA "recommends that governments establish a formal policy on the level of *unrestricted* fund balance that should be maintained in the general fund for GAAP and budgetary purposes," including setting a guideline for how the government will increase or decrease the *unrestricted* fund balance level over a specific period of time (GFOA 2015).[24] Holding funding in reserve can help minimize the impact from underestimated revenues and/or overestimated expenditures (Tyer 1993).

Kloha et al. (2005) suggest that general fund balances as a percent of general fund revenues of less than 13 percent should be one signal that a local government is in fiscal distress. In response to this, Crosby and Robbins (2013) suggest that an increase to 25 percent from 13

[24] Municipalities may formally state a desired fund balance level or maintain a stabilization fund. For example, "The City will maintain an *unassigned* fund balance component for budget stabilization which is 15% of the next year's budget" (City of Eden Prairie, MN 2015). Also, "the City has established a ("*restricted*") budget stabilization fund…may be used to cover any General Fund deficit, prevent a reduction in the level of services when revenues are not being collected in sufficient manner or when the subsequent year budget indicates a shortfall…" (City of Troy, MI 2014).

percent of *unreserved* general fund balance as a percentage of general fund revenues (or expenditures) would be a better fiscal indicator of budget solvency for Michigan's municipality fiscal stress monitoring system. In their evaluation of Michigan's monitoring system for municipal fiscal stress and sustainability during the economic downturn between 2007 and 2009, Crosby and Robbins (2013) found that the aggregated general fund *unreserved-undesignated* balance sharply decreased during the recent economic crisis (from a combined $324.9 million in 2007 to $110.3 million in 2009 for their sample). Thereby, budgetary reserves can deplete relatively quickly when governments face economic recessions. Snow, Gianakis, and Fortess (2008) examine if Massachusetts municipalities have sufficient resources to withstand simulated recessionary effects from reduced state aid. They found that 8 percent of Massachusetts municipalities lacked sufficient slack resources (stabilization fund balance plus free cash and excess capacity) to cover a minor simulated state-aid reduction scenario, while 25 percent of these municipalities lacked the slack resources to cover an extreme state-aid reduction scenario. Thus, maintaining a sufficient "safety net" is critical for withstanding periods of economic downturns.

At a minimum, the GFOA recommends that general-purpose governments "maintain *unrestricted* budgetary fund balance in their general fund of no less than two months of regular general fund operating revenues or regular general fund operating expenditures" (GFOA 2015). The two month minimum target for covering operating revenues or expenditures replaces the original GFOA recommendation of a "5 to 15 percent minimum" of general fund *unreserved* balance (Gauthier 2009). Instead of advising a certain percentage of fund balance in reserve that may be impractical or irrelevant for some state and local governments, this updated

recommendation allows governments to consider their own characteristics and demographics when establishing enough reserves for a period of time.

However, there could be other factors that influence governments to maintain a higher (or lower) levels of excess funding balance. To determine the appropriate *unrestricted* general fund level, the GFOA suggests that governments should consider their individual factors including: (1) the predictability of its revenues and the volatility of its expenditures; (2) the exposure to significant one-time outlays (e.g., disasters, immediate capital needs, state budget cuts); (3) the potential drain on general fund resources from other funds; (4) the potential impact on the entity's bond ratings and corresponding increased cost of borrowed funds; and (5) *committed* and/or *assigned* fund amounts (GFOA 2015).

In summarizing indicators of financial condition and stress for local governments to utilize as monitoring tools, Maher (2013) suggests one financial condition indicator that uses the governmental fund financial statement is "*unreserved* general fund balance divided by general fund expenses." When analyzing a government's fund financial statements, *unreserved* fund balances are one component that may signal to municipal analysts that a government has "superior management and prudent fiscal policy" (Wilson and Kattelus 2001). As GASB 54 updated the fund balance classifications, Maher (2013) recommends using the combined *assigned* and *unassigned* fund balance in place of *unreserved* general fund balance as these classifications allow for greater spending flexibility. These suggestions indicate that the reported level of *unreserved* (or *unassigned*) fund balance is a significant factor that demonstrates how well a government can endure difficult financial hardships.

Fund Balance Outcomes

When governments have smaller budgetary reserves, this limits the degree of future decisions. Conversely, larger budgetary reserves lead governments to pursue additional opportunities. Research finds that governments' current level of fund balances influences how their resources are spent in the future. Hendrick (2006) investigates the future economic decisions made based on the level of slack for suburban Chicago municipalities. The analysis reveals lower (higher) *unreserved* fund balances are found to result in lower (higher) future expenditures. J. Park, S. Park, and Maher (2018) also note that municipalities' *unreserved* fund balances are positively related to general expenses. Some examples of expenditures that available flexible funds are spent on are: capital projects and land purchases (Hendrick 2006), responses to localized emergencies like natural disasters or economic downturns (Wang and Hou 2012), flexible investments (Su 2016), early debt payments (Marlowe 2005), or transfers to other funds (Marlowe 2009).

Su's (2016) analysis of municipal financial slack accumulation reveals that increases in *unreserved* general fund balance is associated with decreases in total general fund expenditure growth, suggesting that reserve saving limits the amount of funding for expenditures. Marlowe (2009) tests if budgetary slack reduces the additional expenditures in future periods after overspending in the current period using Minnesota cities. The type of budgetary slack shapes this relationship. High levels of total general fund balances appear to reduce the ratcheting of expenditures after overspending, while high levels of *unreserved* general fund balance appear to promote municipalities to continue overspending into future periods.

The accumulation of *unreserved* funds suggests that governments can maintain expenditure levels when economic conditions result in lower revenues. Thereby, *unreserved* or *unassigned* fund balances could be used counter-cyclically. Most prior literature finds evidence

in support of excess fund balances minimizing the impact of economic downturns suggesting a future benefit of maintaining balances for stabilization.[25] Reitano (2017) investigates whether Pennsylvania school districts allocated stabilization funding to specific expenditure categories during the Great Recession. The results show that higher logged *unassigned* fund balances significantly reduce the likelihood (and also the amount) of cutbacks in salaries/benefits, transportation, operations and maintenance, and other expenditures. There appears to be no significant reduction of debt service expenditures with higher *unassigned* balances. Hou (2003) assesses both budget stabilization reserve funds and general fund *unreserved-undesignated* balances in stabilizing general fund expenditures in periods of economic downturns. Results show that both states' budget stabilization funds and general fund *unreserved-undesignated* balances are found to minimize the general fund expenditure gap (as measured by the difference between actual and predicted expenditures divided by predicted expenditures). However, stabilization funds appear to be a better counter-cyclical tool in reducing negative general fund expenditure gaps than *unreserved-undesignated* balances.

Two other studies also support the stabilization role of excess fund balances during economic downturns, but also find differing counter-cyclical effects during economic upturns. Stewart, Hamman, and Pink-Harper (2017) study if current year expenditure gaps are affected by prior year governmental activity fund balances in Illinois county governments. They find that *unreserved* governmental activity fund balances tend to be used counter-cyclically to stabilize expenditure gaps when economic downturns (but not when economic upturns) occur. By

[25] One study notes differing findings from other studies. Wang and Hou (2012) study if the general fund balances have a stabilizing effect on expenditures during periods of economic downturns. General fund balances do not appear to be used counter-cyclically (i.e., no significant positive influence on expenditures during downturns). The effect of higher prior year general fund balance leading to greater current year total expenditures only holds when also including economic upturns.

investigating how general fund balances stabilize expenditures with a sample of Minnesota cities, Marlowe (2005) shows that *unreserved* general fund balance helps stabilize expenditures during economic downturn years, but not build revenues during economic upturn years. *Reserved* general fund balances appear to expand the negative expenditure gap during upturn years.

Beyond having an effect on future expenditures, the level of flexible fund balances are found to have additional benefits or drawbacks. Feng and Neely (2017) find evidence that fund deficiencies (e.g., general fund and enterprise fund) are often cited as rationale for auditors issuing going concern opinions. This suggests municipalities with lower fund balances are perceived to be at greater risk of continuing service failures. Supporting this evidence, Gorina et al. (2018) analyze the ability of fiscal information and ratios to predict local government bankruptcies and identify significant differences in both general and overall governmental *unreserved* fund ratios between distressed and non-distressed local governments. In their regression analysis, there is similar evidence that *unreserved* general fund balances decrease the likelihood of fiscal distress.

Blackwell, Crotts, Litvin, and Styles (2006) study county and municipality compliance with disbursements of South Carolina's accommodations tax (i.e., for the purpose of promoting tourism). Local governments with greater ratios of *unreserved-undesignated* general fund balance to total general fund expenditures are found to have higher percentages of compliant tax disbursements. Chaney et al. (2002) investigate how pension funding status for public employee retirement systems are impacted by state fiscal stress and balanced budget requirements. States with greater (lower) *unreserved* general fund balances per capita tend to have a higher excess (deficit) of pension plan net assets available for pension benefits over the pension benefit

obligation, especially with the presence of balanced budget requirements. This suggests that fiscal stress can lead to underfunded pension plans.

Interactions with higher levels of government may also occur when local governments have various fund balance amounts. Modlin and Stewart (2014) examine the factors related to county governments receiving a notice of impending fiscal stress from the Local Government Commission (North Carolina's financial oversight body). Counties with lower levels of *unreserved* general fund balances as a percentage of total government expenditures were more likely to receive a notice of impending fiscal stress requiring immediate action. Ványolós (2009) investigates how New York State school districts estimate their state aid (i.e., intergovernmental revenues). The analysis shows that districts with higher fund balance ratios can lead to larger state aid estimation errors (in either direction). This may suggest that governments with lower fund balances may better predict receiving greater amounts of intergovernmental revenues to help offset any financial strain.

Outside of the government-based reactions, research has indicated that external parties react to greater amounts of flexible fund balances. Specifically, municipal analysts and the bond market are influenced by governments' fund balance levels. Beck (2018) shows that municipalities use discretionary accruals prior to bond offerings. Since more flexible fund balances offer discretion in spending, greater amounts of flexible balance types could also lead to favorable bond outcomes.

Amrahova et al. (2017) investigate if fiscal health impacts secondary bond yields. Among their evidence, they show that higher *unreserved* or *undesignated* general fund balance scaled by total assets results in lower bond yields, suggesting a perceived benefit for municipalities with better financial health. Reck and Wilson (2014) assess the impact of GASB 34's reporting of

financial condition on municipal bond interest costs. They find a negative association between net interest cost and the ratio between *unreserved* and total general fund balance. This suggests that municipal bond analysts view municipalities with better long-term financial condition (or greater slack) as having less risk and charging less interest.

In addition to receiving lower interest costs and bond yields, governments with higher levels of *unreserved* (or *unassigned*) fund balances also are deemed to have lower credit risks. Marlowe (2011) examines whether the level of budgetary slack impacts bond ratings. In general, *unreserved* general fund balance is found to be positively associated with bond ratings. A rise from a minimal to a large level of *unreserved* general fund balance increases the likelihood of the top bond rating by ten percent. However, the effect of slack level is dampened when trying to avoid a lower bond rating. These findings infer that municipal analysts prefer governments with greater amounts of accumulated reserve funds and resultantly signal their confidence in the ability of these governments to fulfill their debt obligations.

Besides gaining benefits on debt issuances, governments with more budgetary slack generally have a lower likelihood of needing to acquire debt in the first place. Su and Hildreth (2018) investigate if financial slack influences the likelihood and amount of short-term debt with California cities. They find that a higher level of *unreserved* general fund balance both leads to a lower probability of obtaining municipal note debt and a lower note principal amount. This suggests that municipalities prefer to utilize internal funding sources in financial slack over external funding sources in obtaining debt. Additionally, cities with short-term note debt are more likely to use recursive borrowing (i.e., strategically issuing short-term notes to cover cash flow deficits and pay off the short-term notes once anticipated revenues are collected). Thereby,

higher reserves help drive governments to utilize responsible and sustainable policies on funding sources.

HYPOTHESES

Municipal debt analysts are an external party hypothesized to react to municipalities' finances. Several papers look into the effect of fund balance levels on governmental debt. Municipalities with higher (lower) ratios of *unreserved* general fund balances are found to issue bonds with lower net interest costs (Reck and Wilson 2014). Prior literature also determines that the negative association between flexible fund balances (e.g., *unreserved* balances) and interest costs holds when measured by true interest costs (Apostolou et al. 2014; Hickey 2017; Raglund 2017). The results from these papers suggest that bond analysts integrate fund balances into their credit assessments and deem governments with greater levels of flexible (*unreserved* or *unassigned*) fund balances as having less risk. Accordingly, I consider the hypothesis below:

Hypothesis 1: Municipalities with more flexible governmental fund balances have lower future bond interest costs.

Beyond bond interest costs, higher levels of fund balances are also potential considerations for municipal bond rating agencies. Marlowe (2011) finds an overall positive association between *unreserved* general fund balances and governments' bond ratings. Also, states having higher levels of *unreserved* general fund balances are less likely to experience a negative change in S&P's rating outlook (Martell, Kioko, and Moldogaziev 2013). This evidence

demonstrates that bond rating agencies recognize the amount of financial slack held when evaluating the likelihood that a government will cover its debt obligations. I, therefore, suggest the following hypothesis:

Hypothesis 2: Municipalities with more flexible governmental fund balances have higher future bond ratings.

Research has found that fund balance levels affect governments' future decisions. Hendrick (2006) provides initial evidence of a positive relationship between *unreserved* fund balances and future expenditures at the municipality level. Operating expenditures (e.g., salaries and wages, service costs) and capital outlays (e.g., construction and fixed asset purchases) represent two significant spending categories for municipalities (Pierson, Hand, and Thompson 2015). In relation to operating expenditures, research indicates that lower *unreserved* fund balances (as a percentage of general fund expenditures) contribute to more eliminated or reduced services, more laid off or furloughed staff, and more revised union contracts (Jimenez 2014). Contrary to this positive relationship between flexible fund balances and future expenditures, Su (2016) finds a negative association between *unreserved* general fund growth and general fund expenditure growth. This could entail that building surpluses limits future expenditures.

Similar to operating costs, fund balance flexibility could influence future capital project spending. For example, municipalities may be more (less) likely to fund new capital projects (Hendrick 2006) or have greater (lower) net capital investments (Park et al. 2018) when they have sufficient (insufficient) budgetary slack (Hendrick 2006). Additionally, governments could sell capital assets to obtain funding. This may suggest lower amounts of flexible fund balances

lead to lower future percentages of capital assets. Jimenez (2014), however, finds an insignificant relationship between *unreserved* fund balances and the probability of deferring capital projects. The insignificance could be due to grant requirements or citizenry pressures to initiate improvement projects. As well, substantial time to complete projects could add noise to the level of capital asset spending (i.e., sunk costs after starting projects). The findings related to both operating expenditures and capital outlays suggest that governments consider their level of budgetary slack and spending flexibility when making future decisions. As the relationship direction is unclear with either spending category, I propose the following research question:

Research Question 1: How does a change in flexible fund balances affect municipalities' future changes in expenditure categories?

In response to a given flexible fund balance level, a municipality could adjust future expenditures (i.e., RQ1) or adjust future own-source revenues (Hendrick 2006). Literature suggests three different methods for funding generation: (1) taxes, (2) service fees, and (3) debt proceeds (Zhang and Rich 2016; Amrahova et al. 2017). Wang and Hou (2012) show that higher property or sales tax revenues are associated with higher available fund balance percentages. Jimenez (2014) also finds that higher *unreserved* fund balances decrease the likelihood of increasing either property taxes or user fees. However, Park (2017) notes an insignificant relationship between *unreserved* fund balances and non-tax revenue sources (e.g., service fees or fines).

On the debt side, higher *unreserved* general fund balances are found to be associated with lower debt service expenditures (Park et al. 2018) and a reduction in the likelihood of issuing

note debt (Su and Hildreth 2018). All three funding options have associated costs. Raising property taxes and service fees may lower usage or lower public satisfaction. Debt has interest costs and significant future obligations. Since municipalities have several funding and revenue options, I investigate the subsequent research question:

Research Question 2: How does a change in flexible fund balances affect municipalities' future changes in own-source funding categories?

Alternatively, municipality fund balance amounts could also influence decisions by higher levels of government (i.e., federal or state), leading to another potential funding source for municipal governments with intergovernmental revenues. For intergovernmental allocations, literature suggests that federal and state governments tend to target local governments with higher relative tax burdens (Stein and Hamm 1987) and provide more intergovernmental revenues to local governments having higher fiscal stress (Johnson 1985). However, poor fiscal management by a municipality could encourage higher-level governments to withhold some of their transfer aid (e.g., Modlin and Stewart 2014). These intergovernmental transfers may have limited predictability (e.g., Ványolós 2009). Thereby, it is also interesting to find how future funding sources are impacted by fund balance flexibility amounts.

When assessing intergovernmental revenues, state and federal aid to municipalities can be given for different purposes (Johnson 1985). States may share taxes and revenues with municipalities as part of intergovernmental transfers, not merely as financial needs-based allocation (Stewart et al. 2017). Federal aid may be given to municipalities to support nationwide policy priorities or to address other nonfinancial municipal characteristics (e.g., crime). As

characteristic differences may exist, I propose another research question that assesses the effect of fund balances on intergovernmental revenue types (i.e., at the total, federal, and state intergovernmental levels):

Research Question 3: How does a change in flexible fund balances affect municipalities' future changes in intergovernmental funding categories?

METHOD

Sample

To analyze the outcomes of GASB 54 fund balances, I collect municipality CAFRs with fiscal year-ends from 2011 to 2015.[26] As GASB 54's required implementation date was for fiscal years beginning June 15, 2010, this panel data sample includes municipality-year observations that utilize GASB 54 fund balances in their governmental fund financial statements. The precise selection of municipalities comes from Rich, Roberts, and Zhang (2016).[27] With the 364 municipalities from Rich et al. (2016), I have 1,092 potential observations with fund balances between 2012 and 2014.[28] After omitting observations with missing required data, my final

[26] I choose to investigate governmental fund balance outcomes at the municipality level since most studies on fund balance associations use municipalities or other local governments (e.g., Hendrick 2006; Marlowe 2009). Also, there could be factors (e.g., local economic conditions or demographic characteristics) that average out when measured at the statewide level adding noise to my analysis.

[27] The sample selection of Rich et al. (2016) starts with municipalities over 25,000 in population that also responded to the International City/County Management Association's 2011 Municipal Form of Government survey (ICMA 2011). Missing CAFR, Federal Audit Clearinghouse data, and governance data reduce the final sample to 364 unique municipalities.

[28] Despite having fund balance information for 2015, my research question analyses are bounded to end in 2014 since the expenditure and revenue dependent variables are in future form (t+1). Also, my fund balance independent variables of interest are in "changes" form (i.e., [t-1] – [t]), which prevents the using observations in 2011.

sample is 540 municipality-year observations from 241 unique municipalities within 45 different states (see Table 3.1, Panel A).

[TABLE 3.1 ABOUT HERE]

For H1 and H2, I collect individual general obligation (GO) bond issuance observations via SDC Platinum that occur within my municipality sample period based on sale date.[29] With my bond outcome dependent variables being specified in the future period (t+1), the examined GO bond issuances will have sale dates within fiscal years 2012-2016 for each sample municipality. Each analyzed observation requires both data on true interest costs and Moody's long-term rating. From the potential 364 municipalities, my final bond issuance sample is 232 individual bond observations within the future time period (t+1) from 65 unique municipalities from 27 distinctive states (see Table 3.1, Panel B).[30]

Design

For testing H1 and H2, I employ an ordinary least squares (OLS) regression in Equation (1):

$$TIC(or\ Rating)_{i(t+1)} = \beta_0 + \beta_1 UnrestrictedPC(or\ UnassignedPC)_{it} + controls + d_i + t_i + \varepsilon_i \quad (1)$$

[29] General obligation (GO) bonds are backed by the full faith and credit of state and local governments and paid with various tax sources, while revenue bonds are paid for through specific revenue streams (e.g., tolls on a bridge) (Downing and Zhang 2004). Marlowe (2011) deems GO bonds to better reflect issuers' overall financial condition. Several governmental bond papers use GO bonds because of being more homogeneous than revenue bonds (e.g., Apostolou et al. 2014; C. Edmonds, J. Edmonds, B. Vermeer, and T. Vermeer 2017; Hickey 2017). Thus, I also choose to focus on GO bonds to examine H1 and H2.

[30] Note that a given municipality-year may have more than one bond issuance observation.

H1's dependent variable is *TIC*. This represents each GO bond issuance's true interest cost in percentage form. For H2, the dependent variable is *Rating*. This variable is the Moody's long-term bond rating for each bond observation.[31] SDC Platinum provides the data for each bond outcome variable. Note that both dependent variables are one year into the future (t+1). My rationale is that these outcome decisions are based on reported fund balances occurring in the following year, since CAFRs are published in the period after its fiscal year-end.

Equation (1) implies that a bond sale occurs after CAFR release (i.e., municipal bond analysts and raters are reacting to reporting information). However, there could be considerable report delay (i.e., the time between the fiscal year-end and CAFR publication date) that could result in some future bond issuances occurring before the actual CAFR release if bond observations are based on the prior fiscal year-end date. To minimize this possibility, I will compare the bond sale date with the CPA signing date from the Federal Auditing Clearinghouse database to help ensure that the bond sale follows the CAFR release. By aligning each bond issuance observation to the period after the CPA signing date, I should reduce substantial noise in analyzing H1 and H2.

The independent variables of interest in Equation (1) are flexible types of governmental fund balances per capita (in thousands of dollars) based on GASB 54's fund balance definitions measured in current fiscal year (t).[32] The fund balance information is reported on municipalities' "Governmental Funds Balance Sheet" within the CAFR. The first measure, *UnrestrictedPC*, is

[31] Several bond articles (e.g., Beaver, Shakespeare, and Soliman 2006; Plummer, Hutchison, and Patton 2007; Baber and Gore 2008; Palumbo and Zaporowski 2012; Wang and Zhang 2014) use an ordinal variable system of the following bond ratings as measured by Moody's long-term ratings: Aaa=21, Aa1=20, Aa2=19, Aa3=18, A1=17, A2=16, A3=15, Baa1=14, Baa2=13, Baa3=12, Ba1=11, Ba2=10, Ba3=9, B1=8, B2=7, B3=6, Caa1=5, Caa2=4, Caa3=3, Ca=2, C=1.

[32] Since some municipality-year observations have negative balances in the *unassigned* category, I use a per capita transformation instead of logarithms.

the combined GASB 54 *unrestricted* (i.e., total *committed*, *assigned*, and *unassigned*) balances (in thousands of dollars) per capita. This measure allows me to assess amounts of fund balances that permits some degree of internal government spending discretion (i.e., those balances with greater relative spending flexibility than *nonspendable* or externally-imposed *restricted* balances). The second measure, *UnassignedPC*, is the total GASB 54 *unassigned* balances (in thousands of dollars) per capita. This variable is selected to measure amounts of fund balances that represent freely usable *unassigned* amounts as compared to those with some internally-imposed resource constraints (i.e., *committed* and *assigned*). Each measure describing flexible fund balances may contain information content on municipality finances, which could influence future outcomes.

I also include several control variables in Equation (1). In consideration of municipal wealth, *IncomePC* is the county-level income per capita (in thousands of dollars) for a given municipality. *DebtOutPC* is the municipality's per capita total debt outstanding (in thousands of dollars), which controls for prior debt issuances or default risk. Economic uncertainty is controlled by *Unemp* representing the annual unemployment percentage rate in the county of the municipality. A proxy for municipal financial and operational expertise is used with *CouncilMgr* as an indicator variable equal to one if the municipality is run with a council-manager form of government, otherwise equal to zero (Rich et al. 2016). A council appointed governmental administrator runs municipal operations under a council-manager form, whereas an elected mayor simultaneously runs municipal operations under a strong-mayor form.

As Equation (1) includes bond-related dependent variables, I add bond control variables to the specification. *IssueAmt* is the individual bond's issue amount (in millions of dollars). *Maturity* is the years to maturity for each bond. Since my bond dependent variables are measured

during the future fiscal year (t+1), the listed bond control variables will also be at the future fiscal year (t+1). Other specifications included in Equation (1) are absorbed state indicator variables (*d*) and yearly indicator variables (*t*).The estimates will incorporate municipality-clustered standard errors.[33]

To analyze my research questions (i.e., RQ1-RQ3), I estimate pooled OLS again in Equation (2):

$$\Delta ExpCat_{ji(t+1)}\left(or\ \Delta RevCat_{ki(t+1)}\right) = \beta_0 + \beta_1 \Delta UnrestrictedPC\left(or\ \Delta UnassignedPC\right)_{it} + controls + d_i + t_i + \varepsilon_i \quad (2)$$

Equation (2) investigates how a prior year change in flexible fund balances (i.e., from t-1 to t) impacts each of a municipality's future changes in expenditure and revenue categories (i.e., from t to t+1).[34] RQ1's dependent variable, *ΔExpCat*, denotes two separate forms (*j*): (1) *ΔLogOpExp* signifies the future change in natural log of total operating expenditures (representing total expenditures less capital outlays and intergovernmental expenditures) and (2) *ΔLogCapOut* is the future change in natural log of capital outlays (including capital asset purchases and construction spending).[35]

[33] I do not include "insured bond" or "competitive bidding" indicator variables as control variables because of little variation. Almost all sample GO bonds lacked insurance while virtually all were subject to competitive bidding. I also omit a "callable" bond indicator due to a very high positive correlation with *Maturity*.

[34] To reduce potential noise from using levels, I incorporate "changes" for my dependent variables and independent variables of interest that should be beneficial to assess the incremental effect between flexible fund balance changes and specific revenue/expenditure changes.

[35] Operating expenditures include items such as salaries and wages expenses and service costs.

The dependent variable for RQ2 and RQ3, *ΔRevCat*, takes six different forms (*k*). As used in RQ2, the first three forms of *k* are: (1) *ΔLogPropTax* represents the future change in the natural log of property tax revenues; (2) *ΔLogServFees* is future change in the natural log of total general service charges; and (3) *ΔLogDebtIss* is future change in the natural log of total long-term debt issued. RQ3 uses the last three forms of *k*. These are (in future changes form): (4) *ΔLogIGRev* denotes the natural log of total overall intergovernmental revenues; (5) *ΔLogFedIGRev* is the natural log of total federal intergovernmental revenues; and (6) *ΔLogStIGRev* is the natural log of total state intergovernmental revenues. Each expenditure or revenue category variable can be obtained by U.S. Census Bureau data compiled by Pierson et al. (2015).

The flexible fund balances described in Equation (1) remain the independent variables of interest in Equation (2). Control variables are also similar to those described in Equation (1) minus any individual bond specific control variables. To account for the percentage of each expenditure or revenue composition within a municipality, I include additional control variables in Equation (2). For RQ1 control variables, *OpExpPcnt* is the percentage of total operating expenditures to total expenditures, while *CapOutPcnt* denotes the percentage of total capital outlays to total expenditures. RQ2 inserts as control variables a percentage of total revenues for the following: sales tax revenues (*SalesTaxPcnt*), property tax revenues (*PropTaxPcnt*), general service charges (*ServFeesPcnt*), newly issued long-term debt proceeds (*DebtIssPcnt*), and intergovernmental revenues for total, federal only, and state only amounts (*IGRevPcnt*, *FedIGRevPcnt*, and *StIGRevPcnt*, respectively).[36] This equation also includes the state indicator

[36] *SalesTaxPcnt* does not have a corresponding dependent variable because some municipalities do not have local sales taxes within the sample period (e.g., those in Connecticut or Michigan).

variables (*d*), yearly indicator variables (*t*), and estimates using standard errors clustered by municipality.

RESULTS

Univariate Results

Table 3.2 provides summary statistics for my analyzed variables in the study. Panel A shows variables utilized in my bond outcomes model (Equation 1). *TIC* has a mean of 2.46 and median of 2.52 percent. The median *Rating* of 19 (i.e., Aa2 rating) suggests that a majority GO bonds within the sample are rated highly. *Unrestricted* fund balances have a mean of $65.01 million, while *Unassigned* fund balances have a mean of $23.66 million. This entails that roughly a third of *Unassigned* balances are contained in *Unrestricted* balances. Since the median of *Unrestricted* and *Unassigned* is $29.61 million and $12.72 million, respectively, there are some influential large municipality observations within the sample (i.e., a right-sided skewness in the data). Taking per capita transformations of such variables should reduce the effect of larger outliers.

[TABLE 3.2 ABOUT HERE]

Panel B of Table 3.2 displays all variables' summary statistics from the expenditure/revenue category model (Equation 2) based on municipality-year observations. *OpExp* and *CapOut* have sample means of $205.45 million and $42.06 million, respectively. This demonstrates that normal operating expenditures account for much more spending than capital outlays for a typical municipality. The means of *PropTax*, *ServFees*, and *IGRev* are very similar for the average municipality ($49.88 million, $45.63 million, and $52.37 million,

respectively), which suggests relatively even importance for each revenue source. *DebtIss* with a mean of $35.41 million is lower than the former three funding sources. Within *IGRev*, *StIGRev* (at a mean of $37.67 million) accounts for a greater amount of intergovernmental revenues than *FedIGRev* (at a mean of $8.51 million). Each expenditure and revenue category variable having higher mean than median again indicates right skew. The means of *Unrestricted* and *Unassigned* in the full municipality-year sample ($39.47 million and $14.02 million, respectively) are lower than the bond issuance sample in Panel A, perhaps indicating that bond issuing municipalities tend to be larger in size or rely on bond proceeds for fund balance stabilization.

Table 3.3 offers the pairwise correlations for my analyzed variables. Panel A again shows correlations for the variables within the bond issuance sample, and Panel B presents correlations within the full municipality-year changes sample. In Panel A, there is a -0.09 correlation between *UnrestrictedPC* and *TIC*, and a -0.06 correlation between *UnassignedPC* and *TIC*. However, each pairwise correlation is insignificant at the five percent level. I find a significant 0.19 pairwise correlation between *UnrestrictedPC* and *Rating*, but a non-significant 0.13 correlation between *UnassignedPC* and *Rating*. This provides slight evidence to support H2. No independent variables included simultaneously in Equation (1) are above 0.40 (or -0.40) with pairwise correlations. Panel B does not show any significant pairwise correlations between changes in logged expenditure/revenue categories and changes in fund balances per capita at the five percent level, suggesting changes in revenues and expenditures are not associated with changes in future fund balances. The only independent variables included simultaneously in my Equation (2) with pairwise correlations greater than 0.40 (or -0.40) are *OpExpPcnt* and *CapOutPcnt*.

[TABLE 3.3 ABOUT HERE]

Multivariate Results

Equation (1) tests H1 and H2 by using pooled OLS to analyze how GASB 54 flexible fund balances (in thousands of dollars per capita) are associated with future debt characteristics. *Rating* (i.e., H2) is anticipated to have a positive relationship with flexible fund balances, while *TIC* (i.e., H1) is expected to have a negative relationship with flexible fund balances.

Table 3.4 displays regression results for Equation (1). When *TIC* is the dependent variable, I find a significant negative coefficient in Column [1] at the five percent level for *UnrestrictedPC* (-0.199; p = 0.014). This lends some support for H1 and suggests that a $1,000 increase in per capita *unrestricted* fund balance reduces the *TIC* by 0.199, other things constant. When the independent variable of interest is measured with *UnassignedPC* in Column [2], I also find evidence of support for H1 with a negative association with *TIC* (-0.235; p = 0.045). With other things constant, a $1,000 increase in *unassigned* fund balance decreases future true interest cost by 0.235. These findings provide support that municipal bond analysts recognize municipalities with higher amounts of both flexible governmental fund balance measures, and subsequently charge slightly less interest on future bonds (Apostolou et al. 2014; Reck and Wilson 2014).

[TABLE 3.4 ABOUT HERE]

Columns [3] and [4] examine Equation (1) with *Rating* as the dependent variable. The coefficient estimate for *UnrestrictedPC* is insignificant. However, a significant positive relationship is found between *UnassignedPC* and *Rating* at the five percent significance level (1.017; p = 0.014), lending some support for H2 (Marlowe 2011). This finding highlights that a $1,000 increase in per capita *unassigned* balance would roughly increase the future Moody's

bond rating by one full level (e.g., Aa2 to Aa1). Based on these results, a bond rating agency values the most flexible fund balance information in assessing the risk of not repaying a bond. Overall, municipal bond analysts and bond raters seem to reward municipalities with higher flexible governmental fund balances by providing more favorable bond characteristics.

Besides H1 and H2, the results in Table 3.4 demonstrate several other important findings. First, *Maturity* has a significant positive relationship with *TIC* ($p < 0.01$) in Columns [1] and [2], which is logical since longer debt obligations generally increase the amount of interest required (the negative relationship is less pronounced with *Rating*). Second, Columns [1]-[4] reveals significant positive associations between *IncomePC* and *TIC* and negative associations between *IncomePC* and *Rating* (all $p < 0.01$). This could be interpreted that bond raters feel municipalities with higher wealth are more financial stable and less likely to have default risk. Last, the sample's *TIC* has a significant growth in 2012-2014 and *Rating* has a significant decline on average in both 2013 and 2014, all compared to the 2011 base year, suggesting more risk and less favorable municipal GO bond characteristics as time has continued.

Equation (2) assesses RQ1, RQ2, and RQ3 via pooled OLS to examine how changes in flexible fund balances (in thousands of dollars per capita) are related to future changes in logged expenditure and revenue compositions. I make no directional predictions with *ΔExpCat* and *ΔRevCat* variables and their respective associations with flexible fund balances.

Table 3.5 displays results of RQ1 (i.e., the relationship between changes in flexible fund balances and changes in future expenditure types). The estimate for *ΔUnrestrictedPC* shows some evidence of having an association with future *ΔLogOpExp* (0.046; $p = 0.054$) in Column [1] at the ten percent significance level. The relationship between *ΔUnassignedPC* and *ΔLogOpExp* is insignificant in Column [2] (Hendrick 2006), suggesting that increasing

operational expenditures (e.g., salaries and wages) may be more explained by prior internally allocated funding (e.g., *committed* balances) than the most freely used amounts. When the dependent variable is *ΔLogCapOut* in Columns [3] and [4], the coefficient estimate is insignificant for *ΔUnrestrictedPC* but negative and significant for *ΔUnassignedPC* (-0.295; p = 0.007), respectively. This result could entail that growth in the most flexible balances are used for other purposes than capital projects. Additionally, the lack of findings could indicate that future operating and capital spending are somewhat inelastic (i.e., services and capital project spending is expected by citizens even when poor financial conditions arise) (Jimenez 2014).

[TABLE 3.5 ABOUT HERE]

Interestingly, only *ΔLogOpExp* (but not *ΔLogCapOut*) are significantly higher when municipalities have more current debt outstanding per capita (*DebtOutPC*) ($p < 0.05$). This could entail that municipalities often utilize debt proceeds to fund future operating spending and not for capital projects. The negative associations in Columns [3] and [4] between *Unemp* and *ΔLogCapOut* ($p < 0.10$) suggest that municipalities suppress capital spending when the prior year has poorer economic conditions. With a significant positive relationship between *CapOutPcnt* and *ΔLogOpExp* in Columns [1] and [2] ($p < 0.01$) and a significant negative relationship between *CapOutPcnt* and *ΔLogCapOut* in Columns [3] and [4] ($p < 0.01$), the suggestion is that higher (lower) percentages of capital outlays to total expenditures may result in higher (lower) costs in operations (e.g., inventory or personnel) after fixed asset purchases or completed construction. Also, higher percentages of capital outlays could lead to future capital spending reductions from increased efficiencies (e.g., decreased maintenance costs).

Table 3.6 shows the Equation (2) results based on RQ2 (i.e., the association between changes in flexible fund balances and changes in future own-source revenue compositions). A

negative coefficient for *ΔUnrestrictedPC* and *ΔLogPropTax* in Column [1] (-0.055; p = 0.068) suggests that property taxes are raised in response to lower flexible fund balances (Wang and Hou 2012). Alternatively, future property taxes would be lowered to compensate for higher accumulated *unrestricted* balances (potentially increasing citizen satisfaction). The coefficient estimate for *ΔUnassignedPC* in Column [2] is insignificant, however. Significant coefficients of -0.098 (p = 0.023) for *ΔUnrestrictedPC* in Column [3] and -0.077 (p = 0.071) for *ΔUnassignedPC* in Column [4] when the dependent variable is *ΔLogServFees* could indicate that municipalities increase service charges to stabilize their financial condition (Jimenez 2014). The results highlight that municipalities can reduce pressure on property taxes and user fees under higher financial flexibility. The insignificant coefficient estimates in Columns [5] and [6] for changes in flexible fund balance signals that future debt increases (*ΔLogDebtIss*) may be issued for other reasons outside of bolstering financial condition (e.g., capital spending).

[TABLE 3.6 ABOUT HERE]

Estimates for *IncomePC* indicate that higher wealth promotes greater future service fee growth in Columns [3] and [4] ($p < 0.05$) and more future long-term debt issued in Columns [5] and [6] ($p < 0.10$), possibly due to higher municipal expenditure expectations. Both *Unemp* and *CouncilMgr* are significantly positive ($p < 0.05$) in Columns [5] and [6], which provides evidence debt issuances become more important under economic stress and with municipal managers having potentially higher financial expertise. Lower services fees ($p < 0.01$) and intergovernmental revenues ($p < 0.05$) as a percentage of total revenues (*ServFeesPcnt* and *IGRevPcnt*, respectively) show a negative association to *ΔLogServFees* in Columns [3] and [4]. Thus, municipalities with lower percentages of service fees or intergovernmental revenues may boost finances with service fees increases in the future. A negative estimate for *DebtIssPcnt* (p <

0.01) when the dependent variable is *ΔLogDebtIss* in Columns [5] and [6] is indicating little persistence in debt issuances over time.

Table 3.7 contains the estimation results for RQ3 (i.e., how changes in flexible fund balances affect changes in future intergovernmental revenues). In Columns [1] and [2], neither flexible fund balance change variable is significant with future total intergovernmental revenue changes (*ΔLogIGRev*), suggesting some potential noise in combining different intergovernmental revenue types. The negative estimates for *ΔUnrestrictedPC* in Column [3] (-0.257; p = 0.029) and *ΔUnassignedPC* in Column [4] (-0.252; p = 0.051) when the dependent variable is *ΔLogFedIGRev* demonstrates the federal government tends to target municipalities with declining finances for their future aid transfers (Johnson 1985). A negative association at the ten percent significance level between *ΔUnrestrictedPC* and *ΔLogStIGRev* (-0.215; p = 0.058) in Column [5] shows some evidence that state government provides more future transfers to municipalities with lower discretionary fund balances. The coefficient for *ΔUnrestrictedPC* is insignificant in Column [6]. Based on the overall results, I find evidence that higher governments support municipalities more when they have lower flexible fund reserves (especially at the federal level).

[TABLE 3.7 ABOUT HERE]

Supporting the argument that federal government intergovernmental transfers are "needs-based," I find negative estimates for municipality wealth (*IncomePC*) ($p < 0.10$) and positive estimates for unemployment (*Unemp*) ($p < 0.05$) in Columns [3] and [4]. The *CouncilMgr* variable shows significant positive estimates in Columns [3] and [4] and negative estimates in Columns [5] and [6] ($p < 0.05$). This potentially indicates a greater skill in obtaining federal grants, but generates lower revenue sharing with state taxes. Another finding is that each

intergovernmental revenue category percentage is negatively associated with its future change dependent variable (e.g., between *StIGRevPcnt* and *ΔStLogIGRev*). Ványolós (2009) suggests that intergovernmental revenues have high degrees of unpredictability.

Supplemental Analyses

Even though several of my results suggest that future decisions are influenced by levels or changes in flexible fund balances, there could be differing outcomes depending on whether a municipality is under a "surplus" or "deficit" condition. For example, a municipality under a surplus (deficit) might have more (less) flexibility to adjust revenues or expenditures as needed. I define a "surplus" as having greater revenues than expenditures after other financing sources and uses in time t as shown in the *Statement of Revenues, Expenditures, and Changes in Fund Balances* for governmental funds. Likewise, I define a "deficit" as having greater expenditures than revenues after other financing sources and uses in time t.

In Table 3.8, Panel A examines Equation (1) under a "surplus" condition. I find evidence still supporting H1 and H2 with a negative association between *UnrestrictedPC* and *TIC* (-0.297; p = 0.031) in Column [1] and with a positive association between *UnassignedPC* and *Rating* (0.930; p = 0.037) in Column [4], respectively (Apostolou et al. 2014; Raglund 2017). This still indicates favorable bond outcomes with higher levels of flexible fund balance types, even when governmental funds' revenues exceed expenditures. The results of Table 3.8, Panel B investigating Equation (2) future expenditure changes (i.e., RQ1) with surplus observations show both *ΔUnrestrictedPC* (0.081; p = 0.011) in Column [1] and *ΔUnassignedPC* (0.060; p = 0.095) in Column [2] being positively associated with *ΔLogOpExp*. The finding supports municipalities using some accumulated slack in flexible fund balances towards future operating expenditures

(Hendrick 2006). However, there is no evidence that increases in flexible fund balances impacts future capital spending changes (Jimenez 2014) since this spending could be somewhat inelastic.

[TABLE 3.8 ABOUT HERE]

Using surplus observations in Table 3.8, Panel C for assessing flexible fund balance changes on future own-source revenue changes in Equation (2) (i.e., RQ2), the only significant relationship of interest is between *ΔUnassignedPC* and *ΔLogServFees* at the ten percent significance level (-0.123; p =0.084) in Column [4] (Jimenez 2014). This signals that many own-source revenues stay stable if flexible fund balances change (Park 2017). Table 3.8, Panel D tests the effect of flexible fund balance changes on future intergovernmental revenue changes (i.e., RQ3) with surplus municipalities. A significant negative coefficient for *ΔUnassignedPC* (-0.474; p = 0.025) in Column [4] when the dependent variable is *ΔLogFedIGRev* informs again on the federal government tending to support municipalities when flexible fund balance decreases, despite fund revenues exceed expenditures. The changes on state intergovernmental revenues with tax or revenue sharing may be outside of municipalities' control.

Table 3.9, Panel A looks at Equation (1) with the flexible fund balances and future bond outcomes relationship with deficit municipalities. The results are relatively weaker in Column [1] between *UnrestrictedPC* and *TIC* (-0.192; p = 0.095) than in surplus conditions, and still insignificant between *UnassignedPC* and *TIC*. Both coefficient estimates for *UnrestrictedPC* (1.858; p = 0.049) and *UnassignedPC* (2.221; p = 0.020) are relatively more pronounced than surplus observations when the bond outcome variable is *Rating* in Columns [3] and [4], respectively. With about a two-grade increase associated with a $1,000 increase in either *unrestricted* or *unassigned* balances per capita, bond raters appear to take a heightened interest in flexible fund balances under deficit conditions.

[TABLE 3.9 ABOUT HERE]

Panels B, C, and D in Table 3.9 investigate how changes in flexible fund balances are associated with future changes in revenue or expenditure types (i.e., RQ1, RQ2, and RQ3, respectively) when a deficit occurs. All results show no significance between any flexible fund balance change independent variables and future specific revenue/expenditure change dependent variables. This could entail that deficit conditions decrease municipalities' financial flexibility to adjust spending uses or funding sources as needed.

CONCLUSION

The purpose of my paper is to examine the outcomes of GASB 54-defined governmental fund balance types within a sample of U.S. municipalities. Using fund balance amounts with more flexible spending, I find evidence that higher levels of flexible fund balances lead to lower future true interest costs and raise bond ratings in a municipal GO bond sample. My analysis with a multi-year municipality sample also shows that changes of *unrestricted* funds are positively associated with changes in future operating expenditures, while changes in these funds are negatively associated with changes in future property tax revenues, service fees, and separate intergovernmental revenue types. As well, a negative relationship is found between *unassigned* balance changes and future capital spending changes. No evidence is found suggesting that flexible fund balance changes impact future debt proceed changes. These findings imply that current governmental fund balance flexibility has the potential to impact both future bond and municipality-based outcomes.

This study offers several contributions to prior research. Instead of focusing on a single selected outcome, I examine how governmental fund balances influence outcomes from several different perspectives (e.g., future bond factors and revenue ratios). Also, my study incorporates different variable specifications based on the "spending flexibility" definitions provided by the updated GASB 54 fund balances to investigate my hypothesized associations with each outcome. Measuring fund balances at the total governmental funds level (instead of relying on the narrower general fund) should offer more information in assessing how flexible fund balances shape internal and external decisions.

Despite my contributions, there may be some limitations involved with my analysis. Some municipalities issue multiple bonds within a fiscal year. So the current period independent variables will be the same for every bond issuance in a given municipality-year. Thereby, my bond model estimates may have added noise that does not account for prior bond issuance characteristics in the same fiscal year (e.g., first bond issued in October 2012 and second bond issued in December 2012). Also, unobserved factors may exist that influence decisions that are difficult to control for (e.g., a finance officer's tendency to either short- or long-term planning or raising future expenditures to improve low citizen satisfaction).

Since GASB 54 fund balance classifications are suggested to provide better information content to bond analysts than prior classifications, one avenue of future research could investigate bond pricing efficiency. Furthermore, bond rating agencies should perceive less uncertainty from the consistency and comparability of GASB 54 fund balances. This could lead to fewer rating differences between multiple rating agencies. Another potential future consideration is whether municipal officers strategically report information prior to bond

issuance (e.g., Beck 2018). Specifically, municipalities may build flexible fund balances prior to bond issuance to gain favorable ratings or interest costs.

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TABLE 3.1

Sample Selection

Panel A: Equation (2) Full Municipality-Year Changes Sample

Potential municipality-year observations from Rich et al. (2016) between 2011-2015 (364 x 5)	1,820
Less 2011 observations for changes in independent variables of interest	(364)
Less 2015 observations for future-specified dependent variables (t+1)	(364)
Less observations with missing CAFRs	(7)
Less observations missing unemployment and income data	(244)
Less observations missing Census financial data	(301)
Final sample of municipality-year observations (in changes)	540

Panel B: Equation (1) Individual Bond Sample

Number of individual bond issuances from the 364 municipalities in Rich et al. (2016) between 2012-2015	1,251
Less observations with missing CAFRs	(18)
Less revenue bond observations	(398)
Less observations missing true interest cost or bond rating information	(579)
Less observations missing unemployment and income data	(5)
Less observations missing Census financial data	(19)
Final sample of individual general obligation bonds	232

TABLE 3.2

Descriptive Statistics

Panel A: Individual Bond Sample (n = 232)

Variable	Mean	Std. Dev.	Q1	Median	Q3
$TIC_{(t+1)}$	2.46	0.80	1.87	2.52	3.02
$Rating_{(t+1)}$	19.42	1.26	19.00	19.00	21.00
$Unrestricted_t$	65.01	81.09	18.38	29.61	80.57
$Unassigned_t$	23.66	36.64	6.13	12.72	27.54
$IncomePC_t$	46.59	10.97	39.07	43.84	50.40
$DebtOutst_t$	782.23	1,780.48	122.57	274.93	564.15
$Unemp_t$	6.32	2.41	4.55	5.90	8.15
$CouncilMgr_t$	0.66	0.47	0.00	1.00	1.00
$IssueAmt_{(t+1)}$	21.88	34.56	5.93	10.29	25.18
$Maturity_{(t+1)}$	15.80	5.80	10.85	16.98	19.94

Table 3.2, Panel A shows descriptive statistics for all variables used in Equation (1) (i.e., H1 and H2). *Unrestricted* is the total combined *committed*, *assigned*, and *unassigned* governmental fund balances in millions of dollars. *Unassigned* is the total *unassigned* governmental fund balance in millions of dollars. *DebtOutst* is the total debt outstanding in millions of dollars. The remaining variable descriptions can be found in Appendix 3A.

Panel B: Full Municipality-Year Sample (n = 540)

Variable	Mean	Std. Dev.	Q1	Median	Q3
$OpExp_{(t+1)}$	205.45	327.46	67.93	114.06	223.64
$CapOut_{(t+1)}$	42.06	70.43	9.67	21.11	45.20
$PropTax_{(t+1)}$	49.88	92.49	13.43	25.08	51.74
$ServFees_{(t+1)}$	45.63	64.02	15.78	26.21	47.85
$DebtIss_{(t+1)}$	35.41	118.23	0.00	8.28	31.25
$IGRev_{(t+1)}$	52.37	119.97	9.45	20.42	43.78
$FedIGRev_{(t+1)}$	8.51	15.12	0.97	3.14	9.54
$StIGRev_{(t+1)}$	37.67	105.56	5.04	10.76	24.57
$Unrestricted_t$	39.47	57.58	10.53	21.65	45.19
$Unassigned_t$	14.02	24.86	3.25	9.35	18.97
$IncomePC_t$	44.12	11.56	36.06	41.15	48.89
$DebtOutst_t$	368.48	1,010.86	60.92	129.91	301.21
$Unemp_t$	7.24	2.23	5.65	7.00	8.45
$CouncilMgr_t$	0.72	0.45	0.00	1.00	1.00
$OpExpPcnt_t$	72.31	10.37	65.80	73.57	79.26
$CapOutPcnt_t$	15.45	9.26	8.35	13.72	20.96
$SalesTaxPcnt_t$	13.36	12.33	2.95	10.04	20.57
$PropTaxPcnt_t$	18.93	12.50	8.89	16.48	26.65
$ServFeesPcnt_t$	18.36	9.55	11.91	17.69	23.22
$DebtIssPcnt_t$	11.92	15.79	0.08	6.63	17.00
$IGRevPcnt_t$	16.95	12.75	7.85	13.08	23.79
$FedIGRevPcnt_t$	3.46	4.27	0.84	2.19	4.64
$StIGRevPcnt_t$	10.99	10.94	3.53	7.59	14.63

Table 3.2, Panel B shows descriptive statistics for all variables used in Equation (2) (i.e., RQ1-RQ3). *Unrestricted* is the total combined *committed*, *assigned*, and *unassigned* governmental fund balances in millions of dollars. *Unassigned* is the total *unassigned* governmental fund balance in millions of dollars. *DebtOutst* is the total debt outstanding in millions of dollars. *OpExp*, *CapOut*, *PropTax*, *ServFees*, *DebtIss*, *IGRev*, *FedIGRev*, and *StIGRev* is the total operating expenditures, capital outlays, property tax revenues, general service charges, long-term debt issued, intergovernmental revenues, federal intergovernmental revenues, and state intergovernmental revenues, respectively, in millions of dollars. The remaining variable descriptions can be found in Appendix 3A.

TABLE 3.3

Pairwise Correlations

Panel A: Equation (1) Individual Bond Sample (n = 232)

	$TIC_{(t+1)}$	$Rating_{(t+1)}$	$UnrestrictedPC_t$	$UnassignedPC_t$	$IncomePC_t$	$DebtOutPC_t$	$Unemp_t$	$CouncilMgr_t$	$IssueAmt_{(t+1)}$	$Maturity_{(t+1)}$
$TIC_{(t+1)}$	1.00									
$Rating_{(t+1)}$	-0.18*	1.00								
$UnrestrictedPC_t$	-0.09	0.19*	1.00							
$UnassignedPC_t$	-0.06	0.13	0.77*	1.00						
$IncomePC_t$	0.01	0.33*	0.28*	-0.00	1.00					
$DebtOutPC_t$	0.12	0.05	0.01	0.06	-0.05	1.00				
$Unemp_t$	-0.05	-0.33*	-0.21*	-0.02	-0.39*	-0.16*	1.00			
$CouncilMgr_t$	-0.03	0.27*	0.32*	0.21*	-0.15*	0.02	-0.06	1.00		
$IssueAmt_{(t+1)}$	0.17*	0.02	0.03	-0.01	0.07	0.23*	-0.01	-0.10	1.00	
$Maturity_{(t+1)}$	0.78*	-0.05	-0.03	-0.06	0.10	0.11	-0.10	0.04	0.21*	1.00

* represents significant correlations at the 5% level.

Table 3.3, Panel A shows pairwise correlations for all variables used in Equation (1) (i.e., H1 and H2). Variable descriptions can be found in Appendix 3A.

Panel B: Equation (2) Full Municipality-Year Changes Sample (n = 540)

	$\Delta LogOpExp_{(t+1)}$	$\Delta LogCapOut_{(t+1)}$	$\Delta LogPropTax_{(t+1)}$	$\Delta LogServFees_{(t+1)}$	$\Delta LogDebtIss_{(t+1)}$	$\Delta LogIGRev_{(t+1)}$	$\Delta LogFedIGRev_{(t+1)}$	$\Delta LogStIGRev_{(t+1)}$	$\Delta UnrestrictedPC_t$	$\Delta UnassignedPC_t$
$\Delta LogOpExp_{(t+1)}$	1.00									
$\Delta LogCapOut_{(t+1)}$	0.00	1.00								
$\Delta LogPropTax_{(t+1)}$	0.06	0.04	1.00							
$\Delta LogServFees_{(t+1)}$	0.34*	0.09*	0.04	1.00						
$\Delta LogDebtIss_{(t+1)}$	0.00	0.08	-0.11*	0.13*	1.00					
$\Delta LogIGRev_{(t+1)}$	0.25*	0.25*	0.11*	0.09*	-0.04	1.00				
$\Delta LogFedIGRev_{(t+1)}$	0.03	0.16*	0.07	0.02	-0.02	0.45*	1.00			
$\Delta LogStIGRev_{(t+1)}$	0.12*	0.25*	0.08	0.07	-0.04	0.61*	0.03	1.00		
$\Delta UnrestrictedPC_t$	0.08	0.03	-0.06	-0.04	-0.05	-0.04	-0.03	-0.07	1.00	
$\Delta UnassignedPC_t$	0.06	-0.06	-0.07	-0.03	0.00	-0.05	-0.04	-0.05	0.85*	1.00
$IncomePC_t$	0.04	0.13*	0.07	0.09*	0.06	0.07	0.00	0.07	0.10*	0.03
$DebtOutPC_t$	0.03	-0.03	0.02	0.00	-0.09	-0.03	0.00	0.04	0.00	-0.00
$Unemp_t$	-0.08	-0.03	-0.14*	0.00	0.10	-0.15*	-0.05	-0.15*	0.01	0.07
$CouncilMgr_t$	-0.04	0.04	-0.00	0.01	0.04	-0.06	0.04	-0.09*	0.08	0.04
$OpExpPcnt_t$	-0.13*	0.17*	-0.03	-0.09*	0.16*	0.06	0.07	0.02	-0.00	-0.03
$CapOutPcnt_t$	0.11*	-0.24*	0.03	0.07	-0.09	-0.06	-0.10*	-0.04	-0.01	0.02
$SalesTaxPcnt_t$	-0.01	0.01	0.00	0.01	0.04	-0.02	0.02	0.00	0.03	0.04
$PropTaxPcnt_t$	-0.06	0.03	0.01	0.03	-0.02	0.01	0.09	-0.01	0.04	0.02
$ServFeesPcnt_t$	-0.09*	-0.02	-0.02	-0.18*	0.05	-0.03	-0.04	-0.01	-0.06	-0.01
$DebtIssPcnt_t$	0.07	-0.04	0.07	0.02	-0.44*	0.06	0.03	0.05	0.10*	0.08*
$IGRevPcnt_t$	-0.03	-0.10*	-0.00	-0.03	-0.02	-0.04	-0.12*	-0.02	-0.02	-0.02
$FedIGRevPcnt_t$	-0.05	-0.10*	-0.02	0.03	-0.07	-0.15*	-0.16*	-0.02	0.03	0.05
$StIGRevPcnt_t$	-0.01	-0.07	-0.01	-0.04	0.01	-0.00	-0.06	-0.02	-0.02	-0.02

Table 3.3, Panel B is continued on the next page.

	$IncomePC_t$	$DebtOutPC_t$	$Unemp_t$	$CouncilMgr_t$	$OpExpPcnt_t$	$CapOutPcnt_t$	$SalesTaxPcnt_t$	$PropTaxPcnt_t$	$ServFeesPcnt_t$	$DebtIssPcnt_t$
$IncomePC_t$	1.00									
$DebtOutPC_t$	-0.06	1.00								
$Unemp_t$	-0.32*	-0.09*	1.00							
$CouncilMgr_t$	-0.05	-0.02	0.12*	1.00						
$OpExpPcnt_t$	-0.04	-0.15*	0.14*	0.02	1.00					
$CapOutPcnt_t$	-0.06	0.02	-0.20*	0.05	-0.76*	1.00				
$SalesTaxPcnt_t$	-0.02	-0.04	-0.09*	0.17*	-0.22*	0.28*	1.00			
$PropTaxPcnt_t$	0.30*	-0.14*	0.03	-0.13*	-0.06	-0.14*	-0.35*	1.00		
$ServFeesPcnt_t$	-0.10*	-0.11*	0.05	0.08	0.01	0.10*	0.08	-0.17*	1.00	
$DebtIssPcnt_t$	-0.04	0.18*	-0.12*	0.01	-0.26*	0.26*	0.09*	-0.03	0.05	1.00
$IGRevPcnt_t$	0.08*	0.01	-0.04	-0.26*	-0.08	0.06	-0.27*	0.15*	-0.29*	-0.01
$FedIGRevPcnt_t$	-0.06	0.16*	-0.04	0.09*	-0.26*	0.28*	-0.07	0.05	-0.03	0.07
$StIGRevPcnt_t$	0.07	-0.07	0.01	-0.27*	-0.01	-0.03	-0.27*	0.22*	-0.29*	-0.04

	$IGRevPcnt_t$	$FedIGRevPcnt_t$	$StIGRevPcnt_t$
$IGRevPcnt_t$	1.00		
$FedIGRevPcnt_t$	0.31*	1.00	
$StIGRevPcnt_t$	0.87*	-0.00	1.00

* represents significant correlations at the 5% level.

Table 3.3, Panel B shows pairwise correlations for all variables used in Equation (2) (i.e., RQ1-RQ3). Variable descriptions can be found in Appendix 3A.

TABLE 3.4

The Relationship between Fund Balance Flexibility and Future Bond Outcomes

IVs\DVs	[1] $TIC_{(t+1)}$	[2] $TIC_{(t+1)}$	[3] $Rating_{(t+1)}$	[4] $Rating_{(t+1)}$
UnrestrictedPC$_t$	**-0.199****		**0.406**	
	(0.014)		**(0.357)**	
UnassignedPC$_t$		**-0.235****		**1.017****
		(0.045)		**(0.014)**
IncomePC$_t$	-0.011***	-0.013***	0.047***	0.057***
	(0.007)	(0.001)	(0.003)	(0.000)
DebtOutPC$_t$	-0.000	0.000	-0.001	-0.003
	(0.996)	(0.977)	(0.952)	(0.873)
Unemp$_t$	-0.020	-0.023	-0.238*	-0.256*
	(0.528)	(0.455)	(0.073)	(0.057)
CouncilMgr$_t$	0.009	-0.035	0.111	0.066
	(0.918)	(0.668)	(0.790)	(0.870)
IssueAmt$_{(t+1)}$	-0.001	-0.001	-0.000	-0.000
	(0.499)	(0.438)	(0.870)	(0.926)
Maturity$_{(t+1)}$	0.107***	0.108***	-0.026*	-0.025*
	(0.000)	(0.000)	(0.054)	(0.069)
2012.year	0.491***	0.488***	-0.359	-0.371
	(0.000)	(0.000)	(0.109)	(0.107)
2013.year	0.451***	0.451***	-0.493**	-0.574**
	(0.000)	(0.000)	(0.034)	(0.014)
2014.year	0.331***	0.323***	-0.883***	-0.972***
	(0.007)	(0.008)	(0.002)	(0.001)
Constant	1.222***	1.334***	19.278***	18.981***
	(0.005)	(0.002)	(0.000)	(0.000)
Observations	232	232	232	232
Adj R-squared	0.705	0.703	0.514	0.542

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 3.4 shows pooled OLS estimates for H1 and H2 using Equation (1). The unit of observation is an individual bond issuance based on the year that sale date (t+1) follows the CPA signing date of the prior fiscal year's CAFR (t). The dependent variable within Columns [1] and [2] is the true interest cost (*TIC*), while the dependent variable within Columns [3] and [4] is the Moody's long-term rating (*Rating*). All dependent variables are measured at time t+1. All specifications include yearly indicator variables, absorbed state indicator variables, and municipality-clustered standard errors. Variable descriptions can be found in Appendix 3A.

TABLE 3.5

The Relationship between Fund Balance Flexibility and Future Expenditure Categories

IVs\DVs	[1] $\Delta LogOpExp_{(t+1)}$	[2] $\Delta LogOpExp_{(t+1)}$	[3] $\Delta LogCapOut_{(t+1)}$	[4] $\Delta LogCapOut_{(t+1)}$
$\Delta UnrestrictedPC_t$	**0.046***		**-0.011**	
	(0.054)		**(0.960)**	
$\Delta UnassignedPC_t$		**0.039**		**-0.295*** **
		(0.135)		**(0.007)**
$IncomePC_t$	0.000	0.000	0.003	0.003
	(0.488)	(0.413)	(0.320)	(0.305)
$DebtOutPC_t$	0.001**	0.001**	-0.002	-0.002
	(0.025)	(0.017)	(0.463)	(0.488)
$Unemp_t$	-0.003	-0.003	-0.031**	-0.031*
	(0.238)	(0.246)	(0.050)	(0.055)
$CouncilMgr_t$	-0.006	-0.004	0.019	0.024
	(0.516)	(0.627)	(0.765)	(0.704)
$OpExpPcnt_t$	0.001	0.001	0.001	0.001
	(0.372)	(0.365)	(0.821)	(0.847)
$CapOutPcnt_t$	0.002***	0.002***	-0.023***	-0.023***
	(0.006)	(0.006)	(0.000)	(0.000)
2013.year	0.030**	0.030**	-0.075	-0.072
	(0.029)	(0.029)	(0.200)	(0.215)
2014.year	-0.001	-0.001	-0.058	-0.071
	(0.934)	(0.938)	(0.470)	(0.393)
Constant	-0.067	-0.071	0.420	0.423
	(0.301)	(0.270)	(0.284)	(0.288)
Observations	540	540	535	535
Adj R-squared	0.048	0.046	0.090	0.096

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 3.5 shows pooled OLS estimates for RQ1 using Equation (2). The unit of observation is a municipality-year. The dependent variable within Columns [1] and [2] is the change in natural log of total operating expenditures (*ΔLogOpExp*), while the dependent variable within Columns [3] and [4] is the change in natural log of total capital outlays (*ΔLogCapOut*). All dependent variables are measured in changes from time t to t+1, whereas the independent variables of interest (i.e., *ΔUnrestrictedPC* and *ΔUnassignedPC*) are measured in changes from time t-1 to t. All specifications include yearly indicator variables, absorbed state indicator variables, and municipality-clustered standard errors. Variable descriptions can be found in Appendix 3A.

TABLE 3.6

The Relationship between Fund Balance Flexibility and Future Revenue Categories

IVs\DVs	[1] $\Delta LogPropTax_{(t+1)}$	[2] $\Delta LogPropTax_{(t+1)}$	[3] $\Delta LogServFees_{(t+1)}$	[4] $\Delta LogServFees_{(t+1)}$	[5] $\Delta LogDebtIss_{(t+1)}$	[6] $\Delta LogDebtIss_{(t+1)}$
ΔUnrestrictedPC$_t$	**-0.055***		**-0.098****		**-1.097**	
	(0.068)		**(0.023)**		**(0.190)**	
ΔUnassignedPC$_t$		**-0.055**		**-0.077***		**-1.051**
		(0.127)		**(0.071)**		**(0.488)**
IncomePC$_t$	-0.000	-0.000	0.002**	0.002**	0.022*	0.022*
	(0.488)	(0.424)	(0.022)	(0.025)	(0.070)	(0.079)
DebtOutPC$_t$	-0.001	-0.001	-0.001	-0.001	-0.002	-0.003
	(0.185)	(0.177)	(0.327)	(0.318)	(0.838)	(0.819)
Unemp$_t$	-0.009	-0.010	0.008	0.008	0.276**	0.270**
	(0.133)	(0.128)	(0.210)	(0.225)	(0.011)	(0.013)
CouncilMgr$_t$	-0.016	-0.018	-0.001	-0.004	0.394**	0.351**
	(0.346)	(0.294)	(0.971)	(0.853)	(0.017)	(0.027)
SalesTaxPcnt$_t$	0.000	0.000	0.000	0.000	0.027	0.028*
	(0.626)	(0.560)	(0.762)	(0.689)	(0.100)	(0.087)
PropTaxPcnt$_t$	-0.000	-0.000	-0.002	-0.002	0.001	-0.002
	(0.533)	(0.489)	(0.129)	(0.112)	(0.947)	(0.899)
ServFeesPcnt$_t$	-0.001	-0.001	-0.006***	-0.006***	0.003	0.004
	(0.352)	(0.401)	(0.002)	(0.003)	(0.778)	(0.716)
DebtIssPcnt$_t$	0.000	0.000	0.000	0.000	-0.061***	-0.061***
	(0.164)	(0.182)	(0.642)	(0.699)	(0.000)	(0.000)
IGRevPcnt$_t$	-0.001*	-0.001*	-0.002**	-0.002**	-0.008	-0.008
	(0.061)	(0.067)	(0.033)	(0.039)	(0.382)	(0.370)
2013.year	0.021*	0.021*	0.042**	0.041**	0.348	0.331
	(0.059)	(0.064)	(0.026)	(0.029)	(0.210)	(0.232)
2014.year	-0.014	-0.015	0.012	0.012	0.772**	0.744**
	(0.583)	(0.560)	(0.764)	(0.776)	(0.030)	(0.033)
Constant	0.128	0.132*	0.024	0.031	-2.742**	-2.610**
	(0.101)	(0.092)	(0.781)	(0.716)	(0.035)	(0.041)
Observations	537	537	540	540	325	325
Adj R-squared	0.040	0.039	0.033	0.030	0.181	0.179

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 3.6 shows pooled OLS estimates for RQ2 using Equation (2). The unit of observation is a municipality-year. The dependent variable within Columns [1] and [2] is the change in natural log of total property tax revenues (*ΔLogPropTax*), the dependent variable within Columns [3] and [4] is the change in natural log of total general service changes (*ΔLogServFees*), and the dependent variable within Columns [5] and [6] is the change in natural log of total new long-term debt issued (*ΔLogDebtIss*). All dependent variables are measured in changes from time t to t+1, whereas the independent variables of interest (i.e., *ΔUnrestrictedPC* and *ΔUnassignedPC*) are measured in changes from time t-1 to t. All specifications include yearly indicator variables, absorbed state indicator variables, and municipality-clustered standard errors. Variable descriptions can be found in Appendix 3A.

TABLE 3.7

The Relationship between Fund Balance Flexibility and Future Intergovernmental Revenue Categories

IVs\DVs	[1] $\Delta LogIGRev_{(t+1)}$	[2] $\Delta LogIGRev_{(t+1)}$	[3] $\Delta LogFedIGRev_{(t+1)}$	[4] $\Delta LogFedIGRev_{(t+1)}$	[5] $\Delta LogStIGRev_{(t+1)}$	[6] $\Delta LogStIGRev_{(t+1)}$
ΔUnrestrictedPC$_t$	**-0.115**		**-0.257****		**-0.215***	
	(0.128)		**(0.029)**		**(0.058)**	
ΔUnassignedPC$_t$		**-0.106**		**-0.252***		**-0.145**
		(0.100)		**(0.051)**		**(0.163)**
IncomePC$_t$	0.000	0.000	-0.007*	-0.008*	0.001	0.001
	(0.877)	(0.936)	(0.075)	(0.065)	(0.511)	(0.587)
DebtOutPC$_t$	-0.003	-0.003	0.012**	0.012**	-0.000	-0.000
	(0.301)	(0.303)	(0.022)	(0.022)	(0.957)	(0.959)
Unemp$_t$	-0.009	-0.010	-0.039	-0.039	-0.001	-0.002
	(0.374)	(0.360)	(0.340)	(0.332)	(0.919)	(0.870)
CouncilMgr$_t$	-0.031	-0.035	0.251**	0.242**	-0.097**	-0.105**
	(0.338)	(0.281)	(0.013)	(0.016)	(0.045)	(0.033)
SalesTaxPcnt$_t$	-0.001	-0.001	0.007	0.007	0.002	0.002
	(0.790)	(0.832)	(0.283)	(0.253)	(0.610)	(0.562)
PropTaxPcnt$_t$	-0.001	-0.001	0.004	0.004	-0.001	-0.001
	(0.609)	(0.577)	(0.387)	(0.418)	(0.788)	(0.730)
ServFeesPcnt$_t$	-0.002	-0.002	-0.006	-0.005	-0.002	-0.001
	(0.160)	(0.174)	(0.175)	(0.191)	(0.493)	(0.549)
DebtIssPcnt$_t$	0.001	0.001	0.001	0.000	0.002	0.001
	(0.443)	(0.464)	(0.787)	(0.825)	(0.239)	(0.285)
IGRevPcnt$_t$	-0.007***	-0.007***				
	(0.000)	(0.000)				
FedIGRevPcnt$_t$			-0.052***	-0.052***	0.000	0.000
			(0.000)	(0.000)	(0.985)	(0.988)
StIGRevPcnt$_t$			-0.007	-0.007	-0.012***	-0.011***
			(0.206)	(0.214)	(0.001)	(0.001)
2013.year	0.029	0.028	-0.131	-0.133	0.020	0.018
	(0.403)	(0.415)	(0.144)	(0.141)	(0.691)	(0.723)
2014.year	0.018	0.016	-0.131	-0.134	0.066	0.066
	(0.677)	(0.702)	(0.304)	(0.295)	(0.221)	(0.231)
Constant	0.251	0.259	0.570	0.587	0.121	0.137
	(0.122)	(0.112)	(0.290)	(0.276)	(0.607)	(0.561)
Observations	540	540	493	493	537	537
Adj R-squared	0.073	0.071	0.054	0.053	0.072	0.068

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 3.7 shows pooled OLS estimates for RQ3 using Equation (2). The unit of observation is a municipality-year. The dependent variable within Columns [1] and [2] is the change in natural log of total intergovernmental revenues (*ΔLogIGRev*), the dependent variable within Columns [3] and [4] is the change in natural log of federal intergovernmental revenues (*ΔLogFedIGRev*), and the dependent variable within Columns [5] and [6] is the change in natural log of state intergovernmental revenues (*ΔLogStIGRev*). All dependent variables are measured in changes from time t to t+1, whereas the independent variables of interest (i.e., *ΔUnrestrictedPC* and *ΔUnassignedPC*) are measured in changes from time t-1 to t. All specifications include yearly indicator variables, absorbed state indicator variables, and municipality-clustered standard errors. Variable descriptions can be found in Appendix 3A.

TABLE 3.8

Fund Balance Flexibility Outcomes under Surplus Condition

Panel A: Fund Balance Flexibility and Future Bond Outcomes under Surplus

IVs\DVs	[1] $TIC_{(t+1)}$	[2] $TIC_{(t+1)}$	[3] $Rating_{(t+1)}$	[4] $Rating_{(t+1)}$
UnrestrictedPC$_t$	**-0.297****		**-0.021**	
	(0.031)		**(0.967)**	
UnassignedPC$_t$		**-0.275**		**0.930****
		(0.199)		**(0.037)**
IncomePC$_t$	-0.004	-0.009	0.050***	0.069***
	(0.539)	(0.188)	(0.006)	(0.001)
DebtOutPC$_t$	0.003	0.004	-0.022	-0.019
	(0.819)	(0.804)	(0.505)	(0.548)
Unemp$_t$	0.028	0.012	-0.159	-0.223
	(0.515)	(0.767)	(0.338)	(0.204)
CouncilMgr$_t$	0.033	-0.093	-0.020	-0.262
	(0.779)	(0.316)	(0.961)	(0.557)
IssueAmt$_{(t+1)}$	-0.003	-0.003	-0.000	-0.000
	(0.140)	(0.182)	(0.956)	(0.884)
Maturity$_{(t+1)}$	0.106***	0.107***	-0.025	-0.019
	(0.000)	(0.000)	(0.108)	(0.200)
2012.year	0.724***	0.705***	-0.210	-0.318
	(0.000)	(0.000)	(0.439)	(0.229)
2013.year	0.628***	0.612***	0.097	-0.100
	(0.000)	(0.000)	(0.757)	(0.741)
2014.year	0.546***	0.496***	-0.498	-0.761**
	(0.000)	(0.000)	(0.167)	(0.030)
Constant	0.540	0.855	18.702***	18.105***
	(0.354)	(0.120)	(0.000)	(0.000)
Observations	136	136	136	136
Adj R-squared	0.697	0.688	0.583	0.613

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 3.8, Panel A shows pooled OLS estimates for H1 and H2 using Equation (1) when total governmental funds' revenues exceed total governmental funds' expenditures after other financing sources/uses in time t (i.e., surplus condition). The unit of observation is an individual bond issuance based on the year that sale date (t+1) follows the CPA signing date of the prior fiscal year's CAFR (t). The dependent variable within Columns [1] and [2] is the true interest cost (*TIC*), while the dependent variable within Columns [3] and [4] is the Moody's long-term rating (*Rating*). All dependent variables are measured at time t+1. All specifications include yearly indicator variables, absorbed state indicator variables, and municipality-clustered standard errors. Variable descriptions can be found in Appendix 3A.

Panel B: Fund Balance Flexibility and Future Expenditure Categories under Surplus

IVs\DVs	[1] $\Delta LogOpExp_{(t+1)}$	[2] $\Delta LogOpExp_{(t+1)}$	[3] $\Delta LogCapOut_{(t+1)}$	[4] $\Delta LogCapOut_{(t+1)}$
$\Delta UnrestrictedPC_t$	**0.081****		**0.179**	
	(0.011)		**(0.718)**	
$\Delta UnassignedPC_t$		**0.060***		**-0.458**
		(0.095)		**(0.100)**
$IncomePC_t$	-0.000	-0.000	0.001	0.001
	(0.786)	(0.989)	(0.732)	(0.724)
$DebtOutPC_t$	0.001	0.001	0.002	0.006
	(0.580)	(0.314)	(0.797)	(0.425)
$Unemp_t$	-0.002	-0.002	-0.045**	-0.040*
	(0.521)	(0.594)	(0.038)	(0.062)
$CouncilMgr_t$	-0.008	-0.005	0.008	0.022
	(0.471)	(0.654)	(0.937)	(0.812)
$OpExpPcnt_t$	0.000	0.000	0.003	0.004
	(0.807)	(0.742)	(0.383)	(0.363)
$CapOutPcnt_t$	0.002*	0.002*	-0.016**	-0.016**
	(0.099)	(0.094)	(0.017)	(0.017)
2013.year	0.034	0.034	-0.111	-0.103
	(0.140)	(0.138)	(0.172)	(0.202)
2014.year	0.007	0.006	0.048	0.045
	(0.681)	(0.705)	(0.692)	(0.713)
Constant	-0.019	-0.036	0.279	0.226
	(0.841)	(0.703)	(0.535)	(0.607)
Observations	302	302	300	300
Adj R-squared	-0.001	-0.009	0.059	0.067

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 3.8, Panel B shows pooled OLS estimates for RQ1 using Equation (2) when total governmental funds' revenues exceed total governmental funds' expenditures after other financing sources/uses in time t (i.e., surplus condition). The unit of observation is a municipality-year. The dependent variable within Columns [1] and [2] is the change in natural log of total operating expenditures (*ΔLogOpExp*), while the dependent variable within Columns [3] and [4] is the change in natural log of total capital outlays (*ΔLogCapOut*). All dependent variables are measured in changes from time t to t+1, whereas the independent variables of interest (i.e., *ΔUnrestrictedPC* and *ΔUnassignedPC*) are measured in changes from time t-1 to t. All specifications include yearly indicator variables, absorbed state indicator variables, and municipality-clustered standard errors. Variable descriptions can be found in Appendix 3A.

Panel C: Fund Balance Flexibility and Future Revenue Categories under Surplus

IVs\DVs	[1] $\Delta LogPropTax_{(t+1)}$	[2] $\Delta LogPropTax_{(t+1)}$	[3] $\Delta LogServFees_{(t+1)}$	[4] $\Delta LogServFees_{(t+1)}$	[5] $\Delta LogDebtIss_{(t+1)}$	[6] $\Delta LogDebtIss_{(t+1)}$
$\Delta UnrestrictedPC_t$	**-0.050**		**-0.082**		**-0.568**	
	(0.305)		**(0.162)**		**(0.463)**	
$\Delta UnassignedPC_t$		**-0.064**		**-0.123***		**-2.848**
		(0.306)		**(0.084)**		**(0.137)**
$IncomePC_t$	-0.001	-0.001	0.001	0.001	0.032*	0.032*
	(0.127)	(0.106)	(0.227)	(0.302)	(0.064)	(0.066)
$DebtOutPC_t$	-0.003	-0.003	-0.004	-0.004	0.008	0.024
	(0.183)	(0.181)	(0.234)	(0.254)	(0.871)	(0.647)
$Unemp_t$	-0.018**	-0.018**	0.005	0.005	0.321**	0.316**
	(0.020)	(0.019)	(0.412)	(0.408)	(0.014)	(0.013)
$CouncilMgr_t$	-0.012	-0.014	-0.004	-0.007	0.470	0.420
	(0.611)	(0.546)	(0.883)	(0.774)	(0.159)	(0.191)
$SalesTaxPcnt_t$	0.001	0.001	-0.001	-0.001	0.048	0.054
	(0.537)	(0.462)	(0.468)	(0.601)	(0.191)	(0.147)
$PropTaxPcnt_t$	-0.000	-0.000	-0.002	-0.002	-0.009	-0.015
	(0.588)	(0.549)	(0.273)	(0.234)	(0.651)	(0.444)
$ServFeesPcnt_t$	-0.000	-0.000	-0.003*	-0.003	0.026	0.032
	(0.884)	(0.919)	(0.099)	(0.103)	(0.226)	(0.131)
$DebtIssPcnt_t$	0.000	0.000	0.000	0.000	-0.060***	-0.061***
	(0.630)	(0.648)	(0.778)	(0.769)	(0.000)	(0.000)
$IGRevPcnt_t$	-0.001	-0.001	0.000	0.000	-0.007	-0.009
	(0.292)	(0.298)	(0.951)	(0.914)	(0.778)	(0.714)
2013.year	0.015	0.015	0.034	0.034	0.541	0.556
	(0.259)	(0.265)	(0.200)	(0.204)	(0.133)	(0.121)
2014.year	-0.033	-0.033	0.079*	0.079**	1.116***	1.135***
	(0.355)	(0.357)	(0.051)	(0.050)	(0.003)	(0.003)
Constant	0.234**	0.237**	0.035	0.040	-4.497***	-4.436***
	(0.020)	(0.018)	(0.627)	(0.575)	(0.009)	(0.009)
Observations	301	301	302	302	187	187
Adj R-squared	0.068	0.069	-0.035	-0.031	0.200	0.209

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 3.8, Panel C shows pooled OLS estimates for RQ2 using Equation (2) when total governmental funds' revenues exceed total governmental funds' expenditures after other financing sources/uses in time t (i.e., surplus condition). The unit of observation is a municipality-year. The dependent variable within Columns [1] and [2] is the change in natural log of total property tax revenues (*ΔLogPropTax*), the dependent variable within Columns [3] and [4] is the change in natural log of total general service changes (*ΔLogServFees*), and the dependent variable within Columns [5] and [6] is the change in natural log of total new long-term debt issued (*ΔLogDebtIss*). All dependent variables are measured in changes from time t to t+1, whereas the independent variables of interest (i.e., *ΔUnrestrictedPC* and *ΔUnassignedPC*) are measured in changes from time t-1 to t. All specifications include yearly indicator variables, absorbed state indicator variables, and municipality-clustered standard errors. Variable descriptions can be found in Appendix 3A.

Panel D: Fund Balance Flexibility and Future Intergovernmental Revenue Categories under Surplus

IVs\DVs	[1] $\Delta LogIGRev_{(t+1)}$	[2] $\Delta LogIGRev_{(t+1)}$	[3] $\Delta LogFedIGRev_{(t+1)}$	[4] $\Delta LogFedIGRev_{(t+1)}$	[5] $\Delta LogStIGRev_{(t+1)}$	[6] $\Delta LogStIGRev_{(t+1)}$
ΔUnrestrictedPC$_t$	**-0.061**		**-0.215**		**-0.173**	
	(0.484)		**(0.426)**		**(0.257)**	
ΔUnassignedPC$_t$		**-0.095**		**-0.474****		**-0.032**
		(0.418)		**(0.025)**		**(0.876)**
IncomePC$_t$	-0.002	-0.002	-0.010*	-0.010*	-0.002	-0.002
	(0.242)	(0.213)	(0.083)	(0.066)	(0.506)	(0.441)
DebtOutPC$_t$	-0.008	-0.008	0.022	0.023	-0.013	-0.014
	(0.332)	(0.338)	(0.156)	(0.140)	(0.230)	(0.216)
Unemp$_t$	-0.018	-0.018	-0.090*	-0.089*	-0.009	-0.011
	(0.176)	(0.180)	(0.054)	(0.061)	(0.597)	(0.525)
CouncilMgr$_t$	-0.085*	-0.087*	0.184*	0.177*	-0.207***	-0.216***
	(0.074)	(0.064)	(0.051)	(0.057)	(0.003)	(0.003)
SalesTaxPcnt$_t$	0.002	0.002	0.021*	0.022**	0.008*	0.008*
	(0.466)	(0.423)	(0.060)	(0.045)	(0.070)	(0.060)
PropTaxPcnt$_t$	0.004	0.003	0.003	0.003	0.003	0.003
	(0.135)	(0.144)	(0.528)	(0.601)	(0.364)	(0.374)
ServFeesPcnt$_t$	0.001	0.001	-0.000	-0.000	0.001	0.002
	(0.722)	(0.714)	(0.950)	(0.949)	(0.754)	(0.674)
DebtIssPcnt$_t$	-0.000	-0.000	-0.004	-0.003	0.001	0.001
	(0.911)	(0.917)	(0.279)	(0.297)	(0.572)	(0.661)
IGRevPcnt$_t$	-0.007**	-0.007**				
	(0.014)	(0.015)				
FedIGRevPcnt$_t$			-0.046***	-0.046***	0.005	0.004
			(0.001)	(0.001)	(0.546)	(0.563)
StIGRevPcnt$_t$			-0.011	-0.009	-0.017***	-0.017***
			(0.493)	(0.537)	(0.007)	(0.006)
2013.year	0.020	0.019	-0.079	-0.079	0.018	0.015
	(0.690)	(0.694)	(0.493)	(0.490)	(0.811)	(0.841)
2014.year	0.041	0.042	-0.170	-0.168	0.118	0.117
	(0.526)	(0.525)	(0.328)	(0.335)	(0.195)	(0.197)
Constant	0.305	0.309	0.843	0.842	0.265	0.287
	(0.149)	(0.144)	(0.174)	(0.178)	(0.432)	(0.400)
Observations	302	302	272	272	301	301
Adj R-squared	0.021	0.021	0.112	0.117	0.119	0.116

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 3.8, Panel D shows pooled OLS estimates for RQ3 using Equation (2) when total governmental funds' revenues exceed total governmental funds' expenditures after other financing sources/uses in time t (i.e., surplus condition). The unit of observation is a municipality-year. The dependent variable within Columns [1] and [2] is the change in natural log of total intergovernmental revenues (*ΔLogIGRev*), the dependent variable within Columns [3] and [4] is the change in natural log of federal intergovernmental revenues (*ΔLogFedIGRev*), and the dependent variable within Columns [5] and [6] is the change in natural log of state intergovernmental revenues (*ΔLogStIGRev*). All dependent variables are measured in changes from time t to t+1, whereas the independent variables of interest (i.e., *ΔUnrestrictedPC* and *ΔUnassignedPC*) are measured in changes from time t-1 to t. All specifications include yearly indicator variables, absorbed state indicator variables, and municipality-clustered standard errors. Variable descriptions can be found in Appendix 3A.

TABLE 3.9

Fund Balance Flexibility Outcomes under Deficit Condition

Panel A: Fund Balance Flexibility and Future Bond Outcomes under Deficit

IVs\DVs	[1] $TIC_{(t+1)}$	[2] $TIC_{(t+1)}$	[3] $Rating_{(t+1)}$	[4] $Rating_{(t+1)}$
UnrestrictedPC$_t$	**-0.192***		**1.858****	
	(0.095)		**(0.049)**	
UnassignedPC$_t$		**-0.308**		**2.221****
		(0.157)		**(0.020)**
IncomePC$_t$	-0.016	-0.017	0.029	0.038
	(0.120)	(0.112)	(0.259)	(0.191)
DebtOutPC$_t$	0.006	0.006	-0.009	-0.008
	(0.222)	(0.193)	(0.732)	(0.793)
Unemp$_t$	-0.061	-0.056	-0.344**	-0.387**
	(0.357)	(0.395)	(0.026)	(0.024)
CouncilMgr$_t$	0.066	0.064	-0.010	0.109
	(0.699)	(0.698)	(0.983)	(0.830)
IssueAmt$_{(t+1)}$	-0.001	-0.001	-0.000	0.000
	(0.644)	(0.602)	(0.872)	(0.952)
Maturity$_{(t+1)}$	0.108***	0.107***	-0.034*	-0.031*
	(0.000)	(0.000)	(0.080)	(0.096)
2012.year	0.356	0.356	0.029	-0.038
	(0.155)	(0.165)	(0.951)	(0.943)
2013.year	0.448***	0.464***	-1.066**	-1.158**
	(0.009)	(0.007)	(0.046)	(0.041)
2014.year	0.185	0.193	-1.311***	-1.396***
	(0.574)	(0.553)	(0.007)	(0.005)
Constant	1.713*	1.723*	20.925***	21.041***
	(0.079)	(0.086)	(0.000)	(0.000)
Observations	96	96	96	96
Adj R-squared	0.707	0.708	0.571	0.529

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 3.9, Panel A shows pooled OLS estimates for H1 and H2 using Equation (1) when total governmental funds' expenditures exceed total governmental funds' revenues after other financing sources/uses in time t (i.e., deficit condition). The unit of observation is an individual bond issuance based on the year that sale date (t+1) follows the CPA signing date of the prior fiscal year's CAFR (t). The dependent variable within Columns [1] and [2] is the true interest cost (*TIC*), while the dependent variable within Columns [3] and [4] is the Moody's long-term rating (*Rating*). All dependent variables are measured at time t+1. All specifications include yearly indicator variables, absorbed state indicator variables, and municipality-clustered standard errors. Variable descriptions can be found in Appendix 3A.

Panel B: Fund Balance Flexibility and Future Expenditure Categories under Deficit

IVs\DVs	[1] $\Delta LogOpExp_{(t+1)}$	[2] $\Delta LogOpExp_{(t+1)}$	[3] $\Delta LogCapOut_{(t+1)}$	[4] $\Delta LogCapOut_{(t+1)}$
ΔUnrestrictedPC$_t$	**-0.028**		**-0.232**	
	(0.519)		**(0.266)**	
ΔUnassignedPC$_t$		**-0.004**		**-0.267**
		(0.932)		**(0.212)**
IncomePC$_t$	0.001	0.001	0.003	0.003
	(0.172)	(0.156)	(0.492)	(0.493)
DebtOutPC$_t$	0.001**	0.001**	-0.004	-0.004
	(0.045)	(0.042)	(0.553)	(0.552)
Unemp$_t$	-0.006	-0.006	-0.016	-0.017
	(0.339)	(0.349)	(0.606)	(0.589)
CouncilMgr$_t$	-0.002	-0.002	0.181	0.180
	(0.925)	(0.910)	(0.268)	(0.272)
OpExpPcnt$_t$	0.001	0.002	-0.004	-0.003
	(0.218)	(0.199)	(0.660)	(0.693)
CapOutPcnt$_t$	0.003**	0.003**	-0.037***	-0.036***
	(0.041)	(0.042)	(0.001)	(0.001)
2013.year	0.016	0.017	0.019	0.019
	(0.398)	(0.388)	(0.861)	(0.856)
2014.year	-0.032	-0.031	-0.180	-0.190
	(0.418)	(0.439)	(0.141)	(0.129)
Constant	-0.133	-0.141	0.664	0.649
	(0.229)	(0.206)	(0.450)	(0.470)
Observations	238	238	235	235
Adj R-squared	-0.053	-0.055	0.113	0.115

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 3.9, Panel B shows pooled OLS estimates for RQ1 using Equation (2) when total governmental funds' expenditures exceed total governmental funds' revenues after other financing sources/uses in time t (i.e., deficit condition). The unit of observation is a municipality-year. The dependent variable within Columns [1] and [2] is the change in natural log of total operating expenditures (*ΔLogOpExp*), while the dependent variable within Columns [3] and [4] is the change in natural log of total capital outlays (*ΔLogCapOut*). All dependent variables are measured in changes from time t to t+1, whereas the independent variables of interest (i.e., *ΔUnrestrictedPC* and *ΔUnassignedPC*) are measured in changes from time t-1 to t. All specifications include yearly indicator variables, absorbed state indicator variables, and municipality-clustered standard errors. Variable descriptions can be found in Appendix 3A.

Panel C: Fund Balance Flexibility and Future Revenue Categories under Deficit

IVs\DVs	[1] $\Delta LogPropTax_{(t+1)}$	[2] $\Delta LogPropTax_{(t+1)}$	[3] $\Delta LogServFees_{(t+1)}$	[4] $\Delta LogServFees_{(t+1)}$	[5] $\Delta LogDebtIss_{(t+1)}$	[6] $\Delta LogDebtIss_{(t+1)}$
$\Delta UnrestrictedPC_t$	**-0.031**		**-0.190**		**0.464**	
	(0.538)		**(0.109)**		**(0.858)**	
$\Delta UnassignedPC_t$		**-0.021**		**-0.164**		**1.045**
		(0.694)		**(0.206)**		**(0.745)**
$IncomePC_t$	0.002	0.002	0.004**	0.004**	0.021	0.022
	(0.212)	(0.211)	(0.036)	(0.034)	(0.407)	(0.402)
$DebtOutPC_t$	-0.000	-0.000	-0.001	-0.001	-0.019	-0.019
	(0.685)	(0.686)	(0.471)	(0.439)	(0.184)	(0.213)
$Unemp_t$	0.011	0.011	0.002	0.002	-0.029	-0.029
	(0.192)	(0.193)	(0.885)	(0.901)	(0.876)	(0.874)
$CouncilMgr_t$	-0.017	-0.018	-0.019	-0.021	0.107	0.078
	(0.441)	(0.434)	(0.682)	(0.659)	(0.847)	(0.889)
$SalesTaxPcnt_t$	-0.002	-0.002	0.001	0.001	0.016	0.017
	(0.206)	(0.208)	(0.544)	(0.541)	(0.656)	(0.641)
$PropTaxPcnt_t$	-0.000	-0.000	-0.003	-0.003	0.013	0.013
	(0.885)	(0.878)	(0.123)	(0.114)	(0.728)	(0.730)
$ServFeesPcnt_t$	-0.001	-0.001	-0.008***	-0.008***	-0.029	-0.029
	(0.492)	(0.502)	(0.000)	(0.000)	(0.200)	(0.205)
$DebtIssPcnt_t$	0.000	0.000	0.001	0.001	-0.066***	-0.066***
	(0.744)	(0.750)	(0.523)	(0.541)	(0.000)	(0.000)
$IGRevPcnt_t$	-0.000	-0.000	-0.004***	-0.004***	0.004	0.004
	(0.655)	(0.655)	(0.009)	(0.009)	(0.884)	(0.882)
2013.year	0.042**	0.043**	0.035	0.037	0.197	0.190
	(0.023)	(0.022)	(0.336)	(0.321)	(0.708)	(0.717)
2014.year	0.040	0.040	-0.107	-0.111	-0.267	-0.219
	(0.274)	(0.274)	(0.310)	(0.297)	(0.725)	(0.775)
Constant	-0.117	-0.117	0.133	0.140	0.674	0.652
	(0.339)	(0.341)	(0.511)	(0.491)	(0.769)	(0.776)
Observations	236	236	238	238	138	138
Adj R-squared	-0.101	-0.102	0.103	0.098	0.054	0.055

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 3.9, Panel C shows pooled OLS estimates for RQ2 using Equation (2) when total governmental funds' expenditures exceed total governmental funds' revenues after other financing sources/uses in time t (i.e., deficit condition). The unit of observation is a municipality-year. The dependent variable within Columns [1] and [2] is the change in natural log of total property tax revenues (*ΔLogPropTax*), the dependent variable within Columns [3] and [4] is the change in natural log of total general service changes (*ΔLogServFees*), and the dependent variable within Columns [5] and [6] is the change in natural log of total new long-term debt issued (*ΔLogDebtIss*). All dependent variables are measured in changes from time t to t+1, whereas the independent variables of interest (i.e., *ΔUnrestrictedPC* and *ΔUnassignedPC*) are measured in changes from time t-1 to t. All specifications include yearly indicator variables, absorbed state indicator variables, and municipality-clustered standard errors. Variable descriptions can be found in Appendix 3A.

Panel D: Fund Balance Flexibility and Future Intergovernmental Revenue Categories under Deficit

IVs\DVs	[1] $\Delta LogIGRev_{(t+1)}$	[2] $\Delta LogIGRev_{(t+1)}$	[3] $\Delta LogFedIGRev_{(t+1)}$	[4] $\Delta LogFedIGRev_{(t+1)}$	[5] $\Delta LogStIGRev_{(t+1)}$	[6] $\Delta LogStIGRev_{(t+1)}$
$\Delta UnrestrictedPC_t$	**-0.097**		**0.066**		**-0.146**	
	(0.223)		**(0.779)**		**(0.223)**	
$\Delta UnassignedPC_t$		**-0.081**		**0.177**		**-0.167**
		(0.148)		**(0.355)**		**(0.170)**
$IncomePC_t$	0.004	0.004	-0.007	-0.007	0.003	0.003
	(0.284)	(0.280)	(0.182)	(0.192)	(0.336)	(0.336)
$DebtOutPC_t$	-0.002	-0.002	0.011*	0.012*	0.008*	0.008*
	(0.702)	(0.699)	(0.082)	(0.075)	(0.071)	(0.078)
$Unemp_t$	0.005	0.005	0.009	0.010	0.010	0.010
	(0.822)	(0.826)	(0.851)	(0.832)	(0.570)	(0.591)
$CouncilMgr_t$	0.059	0.059	0.406*	0.408*	0.126**	0.124**
	(0.310)	(0.317)	(0.094)	(0.091)	(0.037)	(0.038)
$SalesTaxPcnt_t$	-0.004	-0.004	-0.008	-0.008	-0.008	-0.008
	(0.344)	(0.346)	(0.366)	(0.372)	(0.118)	(0.117)
$PropTaxPcnt_t$	-0.007*	-0.007*	0.006	0.006	-0.005	-0.005
	(0.096)	(0.095)	(0.608)	(0.598)	(0.109)	(0.104)
$ServFeesPcnt_t$	-0.002	-0.002	0.000	0.000	-0.002	-0.002
	(0.359)	(0.365)	(0.948)	(0.945)	(0.497)	(0.499)
$DebtIssPcnt_t$	0.001	0.001	0.004	0.004	0.003*	0.003*
	(0.311)	(0.319)	(0.248)	(0.251)	(0.064)	(0.066)
$IGRevPcnt_t$	-0.008**	-0.008**				
	(0.014)	(0.014)				
$FedIGRevPcnt_t$			-0.057***	-0.058***	-0.020**	-0.020**
			(0.003)	(0.003)	(0.024)	(0.026)
$StIGRevPcnt_t$			-0.009	-0.009	-0.006**	-0.006**
			(0.139)	(0.146)	(0.023)	(0.019)
2013.year	0.056	0.057	-0.161	-0.161	0.067	0.068
	(0.263)	(0.260)	(0.201)	(0.200)	(0.234)	(0.231)
2014.year	-0.047	-0.049	-0.174	-0.163	-0.000	-0.006
	(0.571)	(0.558)	(0.380)	(0.413)	(0.997)	(0.935)
Constant	0.088	0.091	0.115	0.090	-0.016	-0.004
	(0.788)	(0.781)	(0.874)	(0.901)	(0.952)	(0.989)
Observations	238	238	221	221	236	236
Adj R-squared	0.104	0.103	0.113	0.115	0.137	0.138

*, **, and *** represent significant coefficients at p < 0.10, 0.05, and 0.01, respectively.

Table 3.9, Panel D shows pooled OLS estimates for RQ3 using Equation (2) when total governmental funds' expenditures exceed total governmental funds' revenues after other financing sources/uses in time t (i.e., deficit condition). The unit of observation is a municipality-year. The dependent variable within Columns [1] and [2] is the change in natural log of total intergovernmental revenues (*ΔLogIGRev*), the dependent variable within Columns [3] and [4] is the change in natural log of federal intergovernmental revenues (*ΔLogFedIGRev*), and the dependent variable within Columns [5] and [6] is the change in natural log of state intergovernmental revenues (*ΔLogStIGRev*). All dependent variables are measured in changes from time t to t+1, whereas the independent variables of interest (i.e., *ΔUnrestrictedPC* and *ΔUnassignedPC*) are measured in changes from time t-1 to t. All specifications include yearly indicator variables, absorbed state indicator variables, and municipality-clustered standard errors. Variable descriptions can be found in Appendix 3A.

APPENDIX 3A

Variable Descriptions

Variable	Description	Data Source
Dependent Variables		
TIC	True interest cost (in percentage) for each bond issue	SDC Platinum
Rating	Moody's long-term rating for each bond issue, where 21 is the highest (i.e., Aaa rating) and 1 is the lowest (i.e., C rating)	SDC Platinum
ExpCat	Represents each expenditure category variable from RQ1 (i.e., *LogOpExp* and *LogCapOut*)	U.S. Census Bureau government finance data via Pierson et al. (2015)
LogOpExp	The natural logarithm of total operating expenditures (i.e., total expenditures less capital outlays and intergovernmental expenditures)	U.S. Census Bureau government finance data via Pierson et al. (2015)
LogCapOut	The natural logarithm of total capital outlays (i.e., purchases and construction)	U.S. Census Bureau government finance data via Pierson et al. (2015)
RevCat	Represents each revenue category variable from RQ2 (i.e., *LogPropTax*, *LogServFees*, and *LogDebtIss*) and RQ3 (i.e., *LogIGRev*, *LogFedIGRev*, and *LogStIGRev*)	U.S. Census Bureau government finance data via Pierson et al. (2015)
LogPropTax	The natural logarithm of total property tax revenues	U.S. Census Bureau government finance data via Pierson et al. (2015)
LogServFees	The natural logarithm of total general service charges	U.S. Census Bureau government finance data via Pierson et al. (2015)
LogDebtIss	The natural logarithm of total new long-term debt issued	U.S. Census Bureau government finance data via Pierson et al. (2015)
LogIGRev	The natural logarithm of total intergovernmental revenues	U.S. Census Bureau government finance data via Pierson et al. (2015)
LogFedIGRev	The natural logarithm of total federal intergovernmental revenues	U.S. Census Bureau government finance data via Pierson et al. (2015)
LogStIGRev	The natural logarithm of total state intergovernmental revenues	U.S. Census Bureau government finance data via Pierson et al. (2015)
Independent Variables		
UnrestrictedPC	The total unrestricted governmental fund balance (i.e., the combined committed, assigned, and unassigned fund balances) in thousands of dollars per capita	CAFR-governmental funds balance sheet

UnassignedPC	The total unassigned governmental fund balance in thousands of dollars per capita	CAFR-governmental funds balance sheet
IncomePC	The county-level per capita income for a municipality in thousands of dollars	American Community Survey from the U.S. Census Bureau
DebtOutPC	The total debt outstanding in thousands of dollars per capita	U.S. Census Bureau government finance data via Pierson et al. (2015)
Unemp	The county-level unemployment rate (in percentage) for a municipality	Local Area Unemployment Statistics from the Bureau of Labor Statistics
CouncilMgr	An indicator variable equal to one if the municipality incorporates a council-manager government form, otherwise equal to zero	ICMA (2011) Municipal Form of Government Survey
IssueAmt	Issuance amounts in millions of dollars for each bond issue	SDC Platinum
Maturity	Years to maturity for each bond issue	SDC Platinum
OpExpPcnt	Percentage of the total operating expenditures to total expenditures	U.S. Census Bureau government finance data via Pierson et al. (2015)
CapOutPcnt	Percentage of the total capital outlays to total expenditures	U.S. Census Bureau government finance data via Pierson et al. (2015)
SalesTaxPcnt	Percentage of the total sales tax revenues (general and selective) to total revenues	U.S. Census Bureau government finance data via Pierson et al. (2015)
PropTaxPcnt	Percentage of the total property tax revenues to total revenues	U.S. Census Bureau government finance data via Pierson et al. (2015)
ServFeesPcnt	Percentage of the total general service charges to total revenues	U.S. Census Bureau government finance data via Pierson et al. (2015)
DebtIssPcnt	Percentage of the total long-term debt issued to total revenues	U.S. Census Bureau government finance data via Pierson et al. (2015)
IGRevPcnt	Percentage of the total intergovernmental revenues to total revenues	U.S. Census Bureau government finance data via Pierson et al. (2015)
FedIGRevPcnt	Percentage of the total federal intergovernmental revenues to total revenues	U.S. Census Bureau government finance data via Pierson et al. (2015)
StIGRevPcnt	Percentage of the total state intergovernmental revenues to total revenues	U.S. Census Bureau government finance data via Pierson et al. (2015)

VITA

Brent Louis Roberts was born on June 29, 1986 in Yakima, Washington. He received a B.A. in Teaching Secondary Mathematics in 2009 and a B.S. in Accounting in 2012 from Central Washington University, Ellensburg, Washington. Brent worked as a staff accountant at Lynden Transport in Seattle, Washington from October 2012 to July 2015. He obtained a Washington State Certified Public Accountant (CPA) license in 2015. He joined Virginia Commonwealth University's Doctor of Philosophy in Business (Accounting Concentration) program in 2015. Brent has been awarded a 2017 American Accounting Association (AAA) Government and Nonprofit Doctoral Student Travel Grant, a 2017 AAA Doctoral Consortium Fellow, and the 2017 Virginia Society of Certified Public Accountants (VSCPA) PhD Scholarship. Brent accepted a full-time position as an Assistant Professor in Accounting at St. Cloud State University, St. Cloud, Minnesota starting in August 2019.